Stomach Cancer

A Medical Dictionary, Bibliography,
and Annotated Research Guide to
Internet References

James N. Parker, M.D.
and Philip M. Parker, Ph.D., Editors

ICON Health Publications
ICON Group International, Inc.
4370 La Jolla Village Drive, 4th Floor
San Diego, CA 92122 USA

Printed in the United States of America.

Last digit indicates print number: 10 9 8 7 6 4 5 3 2 1

Publisher, Health Care: Philip Parker, Ph.D.
Editor(s): James Parker, M.D., Philip Parker, Ph.D.

Publisher's note: The ideas, procedures, and suggestions contained in this book are not intended for the diagnosis or treatment of a health problem. As new medical or scientific information becomes available from academic and clinical research, recommended treatments and drug therapies may undergo changes. The authors, editors, and publisher have attempted to make the information in this book up to date and accurate in accord with accepted standards at the time of publication. The authors, editors, and publisher are not responsible for errors or omissions or for consequences from application of the book, and make no warranty, expressed or implied, in regard to the contents of this book. Any practice described in this book should be applied by the reader in accordance with professional standards of care used in regard to the unique circumstances that may apply in each situation. The reader is advised to always check product information (package inserts) for changes and new information regarding dosage and contraindications before prescribing any drug or pharmacological product. Caution is especially urged when using new or infrequently ordered drugs, herbal remedies, vitamins and supplements, alternative therapies, complementary therapies and medicines, and integrative medical treatments.

Cataloging-in-Publication Data

Parker, James N., 1961-
Parker, Philip M., 1960-

Stomach Cancer: A Medical Dictionary, Bibliography, and Annotated Research Guide to Internet References / James N. Parker and Philip M. Parker, editors
p. cm.
Includes bibliographical references, glossary, and index.
ISBN: 0-597-84078-4
1. Stomach Cancer-Popular works. I. Title.

Disclaimer

This publication is not intended to be used for the diagnosis or treatment of a health problem. It is sold with the understanding that the publisher, editors, and authors are not engaging in the rendering of medical, psychological, financial, legal, or other professional services.

References to any entity, product, service, or source of information that may be contained in this publication should not be considered an endorsement, either direct or implied, by the publisher, editors, or authors. ICON Group International, Inc., the editors, and the authors are not responsible for the content of any Web pages or publications referenced in this publication.

Copyright Notice

Acknowledgements

The collective knowledge generated from academic and applied research summarized in various references has been critical in the creation of this book which is best viewed as a comprehensive compilation and collection of information prepared by various official agencies which produce publications on stomach cancer. Books in this series draw from various agencies and institutions associated with the United States Department of Health and Human Services, and in particular, the Office of the Secretary of Health and Human Services (OS), the Administration for Children and Families (ACF), the Administration on Aging (AOA), the Agency for Healthcare Research and Quality (AHRQ), the Agency for Toxic Substances and Disease Registry (ATSDR), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the Healthcare Financing Administration (HCFA), the Health Resources and Services Administration (HRSA), the Indian Health Service (IHS), the institutions of the National Institutes of Health (NIH), the Program Support Center (PSC), and the Substance Abuse and Mental Health Services Administration (SAMHSA). In addition to these sources, information gathered from the National Library of Medicine, the United States Patent Office, the European Union, and their related organizations has been invaluable in the creation of this book. Some of the work represented was financially supported by the Research and Development Committee at INSEAD. This support is gratefully acknowledged. Finally, special thanks are owed to Tiffany Freeman for her excellent editorial support.

About the Editors

James N. Parker, M.D.

Dr. James N. Parker received his Bachelor of Science degree in Psychobiology from the University of California, Riverside and his M.D. from the University of California, San Diego. In addition to authoring numerous research publications, he has lectured at various academic institutions. Dr. Parker is the medical editor for health books by ICON Health Publications.

Philip M. Parker, Ph.D.

Philip M. Parker is the Eli Lilly Chair Professor of Innovation, Business and Society at INSEAD (Fontainebleau, France and Singapore). Dr. Parker has also been Professor at the University of California, San Diego and has taught courses at Harvard University, the Hong Kong University of Science and Technology, the Massachusetts Institute of Technology, Stanford University, and UCLA. Dr. Parker is the associate editor for ICON Health Publications.

About ICON Health Publications

To discover more about ICON Health Publications, simply check with your preferred online booksellers, including Barnes&Noble.com and Amazon.com which currently carry all of our titles. Or, feel free to contact us directly for bulk purchases or institutional discounts:

ICON Group International, Inc.
4370 La Jolla Village Drive, Fourth Floor
San Diego, CA 92122 USA
Fax: 858-546-4341
Web site: **www.icongrouponline.com/health**

Table of Contents

FORWARD

In March 2001, the National Institutes of Health issued the following warning: "The number of Web sites offering health-related resources grows every day. Many sites provide valuable information, while others may have information that is unreliable or misleading."[1] Furthermore, because of the rapid increase in Internet-based information, many hours can be wasted searching, selecting, and printing. Since only the smallest fraction of information dealing with stomach cancer is indexed in search engines, such as **www.google.com** or others, a non-systematic approach to Internet research can be not only time consuming, but also incomplete. This book was created for medical professionals, students, and members of the general public who want to know as much as possible about stomach cancer, using the most advanced research tools available and spending the least amount of time doing so.

In addition to offering a structured and comprehensive bibliography, the pages that follow will tell you where and how to find reliable information covering virtually all topics related to stomach cancer, from the essentials to the most advanced areas of research. Public, academic, government, and peer-reviewed research studies are emphasized. Various abstracts are reproduced to give you some of the latest official information available to date on stomach cancer. Abundant guidance is given on how to obtain free-of-charge primary research results via the Internet. **While this book focuses on the field of medicine, when some sources provide access to non-medical information relating to stomach cancer, these are noted in the text.**

E-book and electronic versions of this book are fully interactive with each of the Internet sites mentioned (clicking on a hyperlink automatically opens your browser to the site indicated). If you are using the hard copy version of this book, you can access a cited Web site by typing the provided Web address directly into your Internet browser. You may find it useful to refer to synonyms or related terms when accessing these Internet databases. **NOTE:** At the time of publication, the Web addresses were functional. However, some links may fail due to URL address changes, which is a common occurrence on the Internet.

For readers unfamiliar with the Internet, detailed instructions are offered on how to access electronic resources. For readers unfamiliar with medical terminology, a comprehensive glossary is provided. For readers without access to Internet resources, a directory of medical libraries, that have or can locate references cited here, is given. We hope these resources will prove useful to the widest possible audience seeking information on stomach cancer.

The Editors

[1] From the NIH, National Cancer Institute (NCI): **http://www.cancer.gov/cancerinfo/ten-things-to-know**.

CHAPTER 1. STUDIES ON STOMACH CANCER

Overview

In this chapter, we will show you how to locate peer-reviewed references and studies on stomach cancer.

The Combined Health Information Database

The Combined Health Information Database summarizes studies across numerous federal agencies. To limit your investigation to research studies and stomach cancer, you will need to use the advanced search options. First, go to **http://chid.nih.gov/index.html**. From there, select the "Detailed Search" option (or go directly to that page with the following hyperlink: **http://chid.nih.gov/detail/detail.html**). The trick in extracting studies is found in the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Journal Article." At the top of the search form, select the number of records you would like to see (we recommend 100) and check the box to display "whole records." We recommend that you type "stomach cancer" (or synonyms) into the "For these words:" box. Consider using the option "anywhere in record" to make your search as broad as possible. If you want to limit the search to only a particular field, such as the title of the journal, then select this option in the "Search in these fields" drop box. The following is what you can expect from this type of search:

- **Helicobacter Pylori Infection, Gastritis and Gastric Cancer: A Short-Term Eradication Therapy for Helicobacter Pylori Acute Gastritis**

  Source: Journal of Gastroenterology and Hepatology. 15(12): 1377-1381. December 2000.

  Contact: Available from Blackwell Science. 54 University Street, Carlton South 3053, Victoria, Australia. +61393470300. Fax +61393475001. E-mail: Rob.Turner@blacksci-asia.com.au. Website: www.blackwell-science.com.

  Summary: Acute gastritis (stomach inflammation), caused by an initial infection of Helicobacter pylori, may resolve spontaneously, but the infection sometimes becomes chronic. The authors of this article examined the efficacy of a short term H. pylori eradication therapy on acute gastritis. Among the 15 patients with hemorrhage acute gastritis who were randomly allocated to group A (eradication therapy) or group B

(lansoprazole), 10 of the patients started to receive treatment within 1 day after the disease onset. The other five patients began the eradication therapy 4 to 6 days after disease onset (group C). Eradication therapy consisted of a daily oral administration of each of 30 milligrams lansoprazole (LPZ) once a day; 400 milligrams clarithromycin, twice a day; 1000 milligrams amoxicillin, twice a day; and 300 milligrams rebamipide, three times a day, for one week. If the endoscopy was normal, medication was stopped for the following 4 weeks before gastric endoscopy was performed again in order to assess H. pylori eradication. All group A patients were cured after the 1 week treatment and, therefore, they became H. pylori negative. Group B and C patients had erosions or ulcers after the 1 week treatment and so received an additional 3 week administration of LPZ. Four weeks later, their gastritis was cured and except for one group B patient, they became H. pylori negative. The authors conclude that in patients with acute gastritis, caused by an initial H. pylori infection, eradication therapy was efficacious in achieving early healing. This therapy should therefore be started as soon as possible after disease onset. 1 table. 25 references.

- **Trend Toward a Reduced Prevalence of Helicobacter Pylori Infection, Chronic Gastritis, and Gastric Cancer in Japan**

  Source: Gastroenterology Clinics of North America. 29(3): 623-631. September 2000.

  Contact: Available from W.B. Saunders Company. 6277 Sea Harbor Drive, Orlando, FL 32821-9816. (800) 654-2452.

  Summary: Although there has been a remarkable decline in the prevalence and mortality (death) rates of gastric (stomach) cancer in developed countries, **gastric cancer** is one of the common malignancies in the world and is still the main cause of death in Japan. This article investigates the trends in Helicobacter pylori infection and gastritis in Japan over the past few decades. The author notes that it is important to investigate the relationship between H. pylori infection and **gastric cancer** and gastritis to understand better the mechanisms for carcinogenesis (the development of cancer) in the stomach. The author speculates that declines in H. pylori infection and gastritis over the past few decades may lead to a decline in **gastric cancer** in Japan, supplemented by excellent procedures for the early detection of **gastric cancer**. H. pylori infection rarely is acquired in adult life, so once it is eradicated, reinfection is not expected in adult patients. The author concludes that adequate treatment of H. pylori provides long term protection against **gastric cancer**.

- **Helicobacter Pylori Infection, Gastritis and Gastric Cancer: Helicobacter Pylori Infection Among Japanese Children**

  Source: Journal of Gastroenterology and Hepatology. 15(12): 1382-1385. December 2000.

  Contact: Available from Blackwell Science. 54 University Street, Carlton South 3053, Victoria, Australia. +61393470300. Fax +61393475001. E-mail: Rob.Turner@blacksci-asia.com.au. Website: www.blackwell-science.com.

  Summary: In Japan, there are few reports describing Helicobacter pylori infection among young children. This article reports on a study undertaken to identify risk factors associated with H. pylori in school aged children in Japan. Subjects were first grade students of three elementary schools (n = 310) and second grade students of a junior high school (n = 300). Personal information, such as students' medical history, parents' history, family size, siblings, and household pets, was collected using a questionnaire. Saliva samples and personal information were collected twice. Among the children, factors related to Helicobacter antibody in saliva included spending a longer period of

time in a nursery school or kindergarten and a maternal history of stomach disease. Birth order, sleeping situation, and number of siblings were not factors that were significantly related to Helicobacter antibody in the saliva. Chewing food for the infant, family size, rooms in the household, sharing a bedroom during childhood, pets, a past history, and a paternal history were not related to positivity. The results indicate that transmission is person to person, mainly through close contact with other children and intrafamilial infection. H. pylori infection seems to occur frequently early in life, probably before 6 years of age. 2 tables. 29 references.

- **Gastric Carcinoma Metastatic to the Mucosa of the Hard Palate**

  Source: Journal of Oral and Maxillofacial Surgery. 53(9): 1097-1098. September 1995.

  Summary: Metastatic tumors to the oral and maxillofacial region are rare, comprising only 1 percent of oral malignant tumors. In this article, the authors describe a case of adenocarcinoma of the stomach with metastasis to the mucosa of the hard palate. They note that metastasis to the oral soft tissue often represents advanced metastatic disease with a poor prognosis. They stress that the use of radiation, surgery, hormone therapy, and chemotherapy, alone or in combination, should be tailored to the responsiveness of both the primary and metastatic lesions. 3 figures. 12 references. (AA-M).

- **Gastric Cancer**

  Source: Surgery. Number 85: 2033-2038. October 1990.

  Summary: This article discusses **gastric cancer** in two sections: primary prevention and secondary prevention. Primary prevention involves eradication of the cause of a particular disease, based on a knowledge of the initiating agent. Secondary prevention involves treatment of a disease at a stage when the long-term morbidity and mortality can be eradicated. The author discusses risk groups and risk factors for developing **gastric cancer**. After a brief consideration of the Birmingham staging system for gastric carcinoma, the author discusses the preoperative diagnosis of gastric adenocarcinoma; the results of preoperative investigations; the findings at laparotomy; and the surgical procedure. The author notes that, although other forms of cancer therapy such as chemotherapy and radiotherapy, have been disappointing in the management of **gastric cancer**, other treatments, especially hormone therapy, may prove to be more effective. 9 figures. 3 references.

- **Benefits from Elimination of Helicobacter Pylori Infection Include Major Reduction in the Incidence of Peptic Ulcer Disease, Gastric Cancer, and Primary Gastric Lymphoma**

  Source: Preventive Medicine. 23(5): 712-716. September 1994.

  Summary: This article reports on a research study in which the author reviewed the accumulated data showing that successful treatment of Helicobacter pylori (H. pylori) infection results in healing of gastritis and cure of peptic ulcer disease. The author stresses that current data suggest that by elimination of H. pylori, it may be possible to prevent most gastric carcinomas and primary **gastric lymphomas**. The author concludes that H. pylori infection is a major public health problem and elimination or prevention of H. pylori infection will result in a tremendous reduction in medical costs, morbidity, and mortality. 1 table. 38 references. (AA-M).

- **Relationship Between H. Pylori and Gastric Cancers Needs Further Evaluation: NIH Consensus Panel**

  Source: Blue Sheet. 37(7): 11-12. February 16, 1994.

  Contact: Available from Health Policy and Biomedical Research News of the Week. 5550 Friendship Boulevard, Suite One, Chevy Chase, MD 20815. (301) 657-9830; FAX (301) 656-3094.

  Summary: This article reports on the conclusions of an NIH Consensus Conference Panel that investigated the relationship between Helicobacter pylori and **gastric cancers**. The panel suggested that the 'interesting relationship between H. pylori and **gastric cancers** requires further exploration,' noting that 'the effect of prevention or treatment of H. pylori infection on **gastric cancer** risk has not been studied adequately. The article reports on research evidence related to this topic; recommendations for antimicrobial therapy in people infected with H. pylori, including triple therapy with various antibiotics such as tetracycline, metronidazole, amoxicillin, bismuth subsalicylate, and omeprazole; the value of treating non-ulcer dyspepsia patients; side effects of antimicrobial therapy; and the use of the proton pump inhibitor Prilosec.

- **Helicobacter Pylori and the Risk and Management of Associated Diseases: Gastritis, Ulcer Disease, Atrophic Gastritis and Gastric Cancer**

  Source: Alimentary Pharmacology and Therapeutics. 11(Supplement 1): 71-88. April 1997.

  Contact: Available from Mercury Airfreight International, Ltd. 2323 EF, Randolph Avenue, Avenel, NJ 07001. E-mail: journals.cs@blacksci.co.uk.

  Summary: This review article addresses the role of Helicobacter pylori and the effect of H. pylori eradication on gastritis, peptic ulcer disease, atrophic gastritis, and **gastric cancer**. The author emphasizes the various factors that influence the clinical course of this infection. H. pylori induces chronic gastritis in virtually all infected subjects. This inflammation can lead to peptic ulceration and atrophic gastritis in a considerable number of infected subjects. A minority eventually develops **gastric cancer**. The risk of such complications depends upon the severity of gastritis, which is determined by various host-and bacteria-related factors. Among bacterial factors, most of the evidence addresses the cagA pathogenicity island, the presence of which has been associated with more severe gastritis, peptic ulceration, atrophic gastritis, and **gastric cancer**. Among host factors, most of the evidence focuses on acid production in response to H. pylori infection. An increase in acid secretion limits H. pylori gastritis to the antrum at the risk of duodenal ulcer disease; a reduction allows more proximal inflammation at the risk of atrophic gastritis, gastric ulcer disease, and **gastric cancer**. Gastritis and atrophy negatively influence acid secretion. H. pylori eradication is required in peptic ulcer disease and may be advocated in patients on profound acid suppressive therapy; it has been shown to cure gastritis and prevent ulcer recurrence. The author concludes that further study is required to determine the efficacy of H. pylori eradication in the primary and secondary prevention of atrophic gastritis and **gastric cancer**. 3 figures. 193 references. (AA).

- **Gastric Cancer and Helicobacter Pylori**

  Source: Alimentary Pharmacology and Therapeutics. 16 (Supplement 4): 83-88. July 2002.

Contact: Available from Alimentary Pharmacology and Therapeutics. Blackwell Science Ltd., Osney Mead, Oxford OX2 OEL, UK. +44(0)1865 206206. Fax +44(0)1865 721205. E-mail: journals.cs@blacksci.co.uk. Website: www.blackwell-science.com.

Summary: This review article discusses gastric (stomach) cancer, the second most common cause of death from malignancy in the world. The pathogenesis of **stomach cancer** is comparatively well understood and its etiology (cause) multifactorial. Non-cardia **gastric cancer** usually arises in a stomach that has been inflamed over a long period and where atrophy and intestinal metaplasia have supervened. The most common cause of gastric inflammation is infection with Helicobacter pylori. Colonization with this organism increases the relative risk of developing stomach cancer by about six. The likelihood of stomach cancer increases with the severity and extent of the gastritis. Severity is influenced by the virulence of the infecting organism, the genetics of the host, bile reflux, dietary factors, and the presence of hypochlorhydria which influences the extent, as well as the severity, of the inflammation. The only predisposing factor which can easily be manipulated is H. pylori infection, which can be successfully treated in 80 to 90 percent of cases using a 1 week therapeutic regimen. 1 table. 27 references.

Federally Funded Research on Stomach Cancer

The U.S. Government supports a variety of research studies relating to stomach cancer. These studies are tracked by the Office of Extramural Research at the National Institutes of Health.[2] CRISP (Computerized Retrieval of Information on Scientific Projects) is a searchable database of federally funded biomedical research projects conducted at universities, hospitals, and other institutions.

Search the CRISP Web site at **http://crisp.cit.nih.gov/crisp/crisp_query.generate_screen**. You will have the option to perform targeted searches by various criteria, including geography, date, and topics related to stomach cancer.

For most of the studies, the agencies reporting into CRISP provide summaries or abstracts. As opposed to clinical trial research using patients, many federally funded studies use animals or simulated models to explore stomach cancer. The following is typical of the type of information found when searching the CRISP database for stomach cancer:

- **Project Title: CANCER SERO EPIDEMIOLOGY AMONG THE JAPANESE IN HAWAII**

  Principal Investigator & Institution: Nomura, Abraham M.; Director; Kuakini Medical Center 347 N Kuakini St Honolulu, Hi 96817

  Timing: Fiscal Year 2001; Project Start 15-SEP-1983; Project End 30-JUN-2003

  Summary: (Adapted from the Investigator's Abstract) This is a sero-epidemiologic prospective study to identify biochemical markers related to common cancers occurring among 11,132 American Japanese subjects examined in Hawaii. Their unthawed serum, obtained many years prior to the diagnosis of cancer, will be used in the investigation. The proposal is focused on five specific cancer sites: prostate, colon, breast, stomach and

[2] Healthcare projects are funded by the National Institutes of Health (NIH), Substance Abuse and Mental Health Services (SAMHSA), Health Resources and Services Administration (HRSA), Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDCP), Agency for Healthcare Research and Quality (AHRQ), and Office of Assistant Secretary of Health (OASH).

urinary bladder. Eight specific aims will be addressed: 1) to determine whether low serum isoflavonoid levels increase the risk of prostate cancer; 2) to see if low serum selenium levels increase prostate cancer risk; 3) to determine whether high serum insulin level increases the risk of colon cancer risk in men; 4) to find out if low serum isoflavonoid levels increase breast cancer risk in women; 5) to determine whether men carrying the Helicobacter pylori Vac-A strains are at increased risk for **stomach cancer;** 6) to see if the presence of H. pylori serum markers increase the risk of total and cause-specific mortality in men; 7) to find out if serum levels of vitamin A and carotenoids are inversely associated with urinary bladder cancer risk in men; 8) to determine whether low serum selenium levels increase urinary bladder cancer risk in men. The population base for aim 4 consists of 1787 women, born from 1900 to 1935 who were interviewed and examined from 1975-1977. The subjects for the rest of the aims are 9345 men born from 1896 to 1935, who were interviewed and examined from 1971 to 1976. A wealth of epidemiologic-based data was collected on these participants, and they have been under continuous hospital surveillance for cancer since their examination. Two types of study design will be used in this proposal: 1) prospective study (aim 6); 2) nested case-control study (the rest of the aims). It is estimated that the number of incident cases will be as follows: 376 prostate, 387 colon, 120 breast, 293 stomach, and 131 urinary bladder cancer cases. The number of cause -specific mortality cases should be at least 870 coronary deaths, 1277 cancer deaths and 4145 deaths among the men.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: FUNCTIONAL AND STRUCTURAL ANALYSIS OF HIT PROTEINS**

  Principal Investigator & Institution: Brenner, Charles M.; Professor; Microbiology and Immunology; Thomas Jefferson University Office of Research Administration Philadelphia, Pa 191075587

  Timing: Fiscal Year 2002; Project Start 01-AUG-1997; Project End 30-JUN-2007

  Summary: (provided by applicant): Histidine triad (HIT) proteins are a superfamily of nucleotide hydrolases consisting of two branches we have characterized structurally, biochemically and genetically. Mammalian Hint and yeast homolog Hnt1 hydrolyze the natural product AMPNH2 and we showed that enzyme activity is required for biological function. Yeast hnt1 mutants fail to grow at elevated temperatures on galactose and are synthetically less viable with mutants in TFIIK components Kin28, Ccl1 and Tfb3, and with Cak1. The Fhit branch of the HIT superfamily contains enzymes that hydrolyze diadenosine polyphosphates (ApnA). Deletions in human FHIT are among the earliest and most frequent genetic changes in epithelial tumors such as lung, which are responsible for 100,000s of annual US deaths. While yeast genetic experiments prove that Fhit homolog, Hnt2, controls ApnA levels in vivo, specific ablation of the ability of Fhit to hydrolyze but not to bind ApnA does not block the ability of Fhit to suppress tumor formation. These discoveries contributed to a Ras-like model of Fhit function in which the crystallographically defined Fhit-substrate analog complex is seen as the active signaling form. The structure led to novel fluorescent substrates, aided inhibitor synthesis and characterization, and wild-type and mutant enzymology, and began to enable Fhit imaging/diagnostics. Nonetheless, the cellular mechanism of Fhit as tumor suppressor and cellular function of Hnt2 are major unsolved problems that are tractable via synthetic lethal analysis. Specific aims of this proposal are as follows. 1) We will use chemical methods to define the small molecule and/or polypeptide Hnt1 substrates that account for genetic interactions between kin28 and hnt1 2) We will apply biochemical and genetic methods to discover the mechanism for the gene expression and carbon source utilization consequences of hnt1-deficiency. 3) We will complete a

synthetic lethal and suppression screen with hnt2 and probe a protein array with APnA-bound Hnt2 and use these genes to characterize HNT2 function. 4) We will use a collection of Fhit mutants we have purified to test rigorously the hypothesis that Fhit-substrate complexes are the active signaling form of Fhit. Work on Hint/Hnt1 will clarify a newly discovered, conserved regulatory mechanism acting on TFIIK that affects carbon source use and cell viability in yeast, which appears related to the defect responsible for ataxia with oculomotor apraxia. Work on Fhit/Hnt2 is designed to uncover the pathway of one of the most frequently lost cancer genes and may lead to identification of novel targets for prevention and treatment of lung and **stomach cancer.**

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: GASTRIC CANCER PROGNOSIS--MSI, BAX, DCC, & P53 LOH**

  Principal Investigator & Institution: Fenoglio-Preiser, Cecilia M.; Mackenzie Professor Director; Pathology and Lab Medicine; University of Cincinnati 2624 Clifton Ave Cincinnati, Oh 45221

  Timing: Fiscal Year 2001; Project Start 06-AUG-2001; Project End 31-JUL-2006

  Summary: (provided by applicant): Our laboratory has a longstanding interest in alterations in oncogenes, tumor suppressor genes, and DNA repair and cell cycle related genes that impact therapeutic efficacy and patient survival in patients with gastrointestinal malignancies. In this application, we focus on studies directed at understanding molecular alterations present in **gastric cancer** (GC). GCs cause 3.9 deaths per 100,000 persons each year in the U.S. and the prognosis has not changed in decades. Furthermore, proximal GCs are one of the most rapidly increasing cancers in the U.S. We postulate that the poor clinical outcome results from the presence of factors that promote disease progression by creating widespread genetic instability as well as the loss of proteins required to mediate programmed cell death (PCD). Further, we postulate that GC will exhibit microsatellite instability (MSI) with secondary mutations in the pro-apoptotic BAX gene. We also postulate that some GCs will show loss of heterozygosity (LOH) at the p53 and DCC loci negatively impacting patient outcome. "Molecular staging" could enhance TNM staging which is based solely on standard pathological variables. Questions to be answered include 1) Does an individual alteration have an impact on outcome, independent of TNM stage? 2) Does MSI or TGFBRII or BAX gene alteration induce therapeutic resistance? and 3) Is there a reliable measurement methodology for each marker? To examine these issues we propose the following specific aims: Specific Aim 1: To test the hypothesis that MSI is present in a significant number of GCs and when present, serves as an independent marker of patient prognosis and/or serves as a predictor of therapeutic resistance. Specific Aim 2: To test the hypothesis that mutations in the BAX gene occur in patients with MSI+ **gastric cancers** and that these BAX mutations negatively impact patient response to therapy. Specific Aim 3: To test the hypothesis that LOH occurs frequently in GCs and that loss of 17p (the p53 locus) and 18q (the DCC locus), independently predicts patient prognosis and possibly therapeutic response. The patients derive from a Southwest Oncology Group clinical protocol.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: GENE AMPLIFICATION AND OVEREXPRESSION IN GASTRIC CANCER**

  Principal Investigator & Institution: El-Rifai, Wa-El M.; Internal Medicine; University of Virginia Charlottesville Box 400195 Charlottesville, Va 22904

Timing: Fiscal Year 2002; Project Start 12-AUG-2002; Project End 31-JUL-2007

Summary: (provided by applicant): The main objective of the proposed project is to characterize the genetic alterations at the long arm of chromosome 17 (17q) that are related to the development and/or progression of gastric adenocarcinoma. Previously, we have reported a novel amplicon at 17q in **gastric cancer.** Our aim is to characterize the target gene(s) at 17q critically altered in gastric adenocarcinoma and assess their clinical importance using tumor arrays. We have formulated a working hypothesis that amplification of genes on 17q is critical in the development of many **gastric cancers.** Furthermore, our most recent data using cDNA microarray technology on **gastric cancer** support this hypothesis and provide a solid foundation for the proposed project. Our specific aims are to: Aim #1: Identify the critical target(s) amplified and overexpressed at 17q in **gastric cancers,** Aim #2: Characterization of the gene(s)/ESTs with consistent changes in overexpression at 17q, and Aim #3: Validation of the biological and clinical significance of the upregulated gene(s). We will employ further specific cDNA microarrays containing the known transcripts from chromosome 17. Those genes/ESTs most abundantly and consistently overexpressed will be further confirmed using Northern blot and Real time RT-PCR analyses in our panel of primary gastric carcinomas. Cloning, sequencing, and bioinformatics strategies will be used to further characterize the genes/ESTs identified to be consistently overexpressed in the primary human **gastric cancers.** Validation of the biological and clinical significance of the now characterized genes overexpressed in **gastric cancer** (aim#3) will be tested using fluorescence in situ hybridization and immunohistochemistry on primary **gastric cancer** tumor tissue arrays which contain hundreds of cases with clinicopathologic and outcome data from our tumor database. The variations in gene amplification/expression profiles between different **gastric carcinoma** patients are anticipated to yield new information with important biologic and practical implications. Substantial progress in our understanding of gastric tumorigenesis and characterization of critical targets of overexpression at 17q with important implications are anticipated in these proposed studies.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: GENETIC EPIDEMIOLOGY OF GASTRIC CANCER**

  Principal Investigator & Institution: Theuer, Charles P.; Medicine; University of California Irvine Irvine, Ca 926977600

  Timing: Fiscal Year 2001; Project Start 30-SEP-1998; Project End 29-SEP-2002

  Summary: (Applicant's Description) **Gastric cancer** is the eleventh leading cause of cancer-related deaths in the United States and remains one of the most serious worldwide health burdens. Upper endoscopy is effective in the diagnosis of **gastric cancer** and surgery for localized disease is usually curative. The majority of **gastric cancer** patients, however, are diagnosed at a late stage of the disease and die soon after diagnosis. Studies have not identified subgroups of patients in whom screening to detect early **gastric cancer** may be effective. Further **gastric cancer** studies are needed to determine its environmental and genetic risk factors particularly using population-based patients and their families so that cancer prevention and control strategies can be developed. We propose to integrate techniques in genetic epidemiology and molecular biology to develop a means of identifying and characterizing inherited **gastric cancer** predisposing syndromes. The model will consider genetic factors that may be associated with tumor aggressiveness, environmental exposures and interactions among these factors. We will assemble a population-based series of approximately 350 **gastric cancer** cases and controls to assess the etiologic component associated with familial and

potentially hereditary predisposition and to compare clinical, pathologic and prognostic features in sporadic, familial, and potentially hereditary **gastric cancer.** Methods already developed by the Epidemiology Division of UCI will be used to collect family history, epidemiologic risk factors, biologic samples (serum, lymphocytes, and paraffin-embedded tumor and normal tissue). We will test all **gastric cancer** cases for the replication error phenotype at microsatellites at seven loci. We will also test patient serum for IgG to Helicobacter pylori. Gene testing will be done on potential hereditary cases, focusing on the p53 and mismatch repair gene loci. This case-control study of possible genetic mutations will allow identification of populations at high risk for this cancer where opportunities for prevention and early detection of **gastric cancer** can be realized.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: GENETIC SUSCEPTIBILITY TO INFECTION RELATED CANCER**

  Principal Investigator & Institution: Kato, Ikuko; Pathology; Wayne State University 656 W. Kirby Detroit, Mi 48202

  Timing: Fiscal Year 2003; Project Start 01-FEB-2003; Project End 31-JAN-2006

  Summary: (provided by applicant): The long-term goal of the proposed study is to provide a scientific basis to develop efficient primary prevention strategies against infection/inflammation-related cancers. Mounting evidence suggests that a variety of infectious agents have a role in the pathogenesis of human cancers. It is estimated that 15.6 percent of the worldwide cancer incidences in 1990 can be attributed to these infectious agents, accounting for a total of 1,450,000 cases. Helicobacter pylori (HP) is ranked top among various infectious agents and represents approximately 5 percent of new cancer cases in the world. These cancers are important from a public health point of view because they are potentially preventable by antibiotics treatment or vaccination. Whereas HP infection is very common (80-90 percent) in populations with high risk for **stomach cancer,** it is known that only a very small fraction of the population infected with HP actually develops cancer, suggesting a role for genetic components in HP-related carcinogenesis in addition to that of environmental co-factors. This proposal will specifically focus on the 2 groups of polymorphic genes, receptors to HP lipopolysaccharide (LPS), a cell wall component, which elicits immediate proinflammatory responses, (1) CD14 (C-260T), (2) TRL4 (A896G) and (3) NOD2 (3020insC); and resultant cytokines, (4) IL-8 (T-251A), (5) MCP1 (G-2518A), (6) IL-lbeta (T-31C) and (7) TNF-alpha (G-308A). These polymorphic genes are known to be functional and have been postulated to modify host responses to HP infection. The proposed study will be designed as a spin-off study of a chemo prevention trial for **gastric cancer** in Venezuela, taking advantage of unique characteristics of the study population, i.e., a strikingly high (95 percent) HP infection rate and high prevalence of gastric premalignant lesions. It will utilize biological specimens and epidemiological and histopathological data collected at the baseline examination from the 2200 participants. Genomic DNA will be isolated from these specimens and tested for the polymorphic genes listed above. The specific aim of the proposed study is to evaluate whether those genotypes or alleles of the polymorphic genes which lead to greater responses to HP infection are associated with increased risk of high-grade gastric precancerous lesions. Secondary aims include to examine histopathological correlates of these polymorphisms and to determine whether selected environmental factors modify the above associations.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: GIS FOR EXTANT DATA: MODELING H.PYLORI AND GI TUMORS**

  Principal Investigator & Institution: Parsonnet, Julie; Associate Professor; Medicine; Stanford University Stanford, Ca 94305

  Timing: Fiscal Year 2002; Project Start 30-SEP-2002; Project End 31-AUG-2005

  Summary: (provided by applicant): Many large demographic and health datasets exist in the public domain and significant federal resources have been committed to their collection and maintenance. We postulate that, using geographic information systems (GIS) technology, the enormous body of information within these unrelated datasets can be integrated to efficiently explore novel hypotheses. For such purposes, however, precise methods of using GIS have not been well standardized. In this proposal, we intend to develop a method for integrating diverse data sets using GIS and then use the spatial capacities of GIS to answer epidemiologic questions. We will validate these methods using the model of Helicobacter pylori and malignancy. H. pylori is a known cause of **stomach cancer,** and has been purported to cause colorectal and pancreatic adenocarcinomas and to protect against esophageal adenocarcinoma. The vast array of epidemiologic knowledge on this bacterium and its associated cancers makes it an excellent subject for validation of these methods. We will use GIS to combine data from the U.S. Census, NHANES III, and the SEER cancer registry. We will then assess the spatial correlations between H. pylori infection and specific cancer incidences and mortality rates. Development and validation of this methodology will highlight the utility of GIS in epidemiologic research. It will provide a cost-effective means to harness the power and efficiency of large-scale surveys to address specific hypotheses at low expense, even if they were not considered during the design of the surveys. Application of these methods could potentially allow investigators to use existing data sources to address novel hypotheses that may have otherwise been not feasible to pursue.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: GRP AND ITS RECEPTORS: ROLE IN GASTRIC CANCER**

  Principal Investigator & Institution: Carroll, Robert E.; Medicine; University of Illinois at Chicago 1737 West Polk Street Chicago, Il 60612

  Timing: Fiscal Year 2001; Project Start 30-SEP-1999; Project End 31-AUG-2004

  Summary: (Applicant's Description): This proposal is directed to establishing the role of the gastrin-releasing p e p tide receptor (GRP-R) in causing the proliferation of non-antral adenocarcinomas of the stomach. GRP-R are not normally expressed by mucosal epithelial cells lining the gastrointestinal (GI) tract except in the antrum of the stomach. However, the applicants show that 40-50 percent of non-antral **gastric cancers** aberrantly express GRP-R, and provide data showing that these receptors can be activated by 2 different mechanisms. 1), GRP-R are often mutated such that they become constitutively active. This finding provides a non-mechanism whereby aberrant GRP-R expression alone can cause proliferation. 2), Immunohistochemical studies show that many, but not all tumors aberrantly e x press both receptor and ligand. Thus the proliferation of gastric adenocarcinomas may occur secondary to autocrine activation by GRP. Three separate approaches will be used to further elucidate the role of GRP/GRP-R in **gastric cancer** proliferation. I. Prospectively, RNA will be e x t racted from all patients with newly diagnosed non-antral gastric adenocarcinoma at the time of initial endoscopic examination. GRP-R expression will be determined by RTPCR, and mutations screened for using the novel technique of conformational fragment length polymorphism (CFLP) analysis. Mutated GRP-R will be re-created by site-directed mutagenesis, and their functional consequence determined in transiently transfected

CHO-KI cells. II. Retrospectively, the applicants will study 168 consecutive patients with gastric adenocarcinomas who underwent operative resection of their tumor between 1980-96. The paraffin blocks of these tumors have been collected and will be evaluated for both GRP and GRP-R expression by immunohistochemistry using specific antibodies. Initial and follow-up clinical data exists for these patients, allowing the applicants to correlate aberrant ligand and receptor expression with tumor stage, patient survival, and response to chemotherapy. To conclusively establish the role of GRP-R expression in **gastric cancer,** they will study a recently developed GRP-R "knock out" mouse. Knock-out mice, which have been genetically rendered incapable of expressing GRP-R. will be evaluated alongside wild type mice fed N-methyl-N'-nitro-N-nitrosoguanidine (MNNG), a gastric cancer-inducing agent, and the propyl derivative PNNG, which only causes intestinal metaplasia. These studies will allow the applicants to determine the contribution of the GRP-R to the development and progression of gastric adenocarcinomas, and potentially will lead to therapeutic advances in the treatment of this disease.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: H PYLORI INDUCED OXIDATIVE DNA DAMAGE**

  Principal Investigator & Institution: Groopman, John D.; Associate Director of Cancer Prevention; Johns Hopkins University 3400 N Charles St Baltimore, Md 21218

  Timing: Fiscal Year 2001; Project Start 13-JUL-2001; Project End 30-APR-2006

  Summary: The discovery of Helicobacter pylori (H. pylori) infection has greatly changed our understanding of upper G.I. tract, diseases, including peptic ulcer disease and **stomach cancer.** Antibiotics are first-line treatment for ulcer patients which are infected with this bacterium. Also, the World Health Organization has classified H. pylori as a group I or definite carcinogen. People infected with H. pylori have a 3 to 6 fold higher risk of developing **gastric cancer** than non-infected persons. Progression from superficial gastritis caused by H. pylori to atrophic gastritis with intestinal metaplasia is felt to be a precursor to **gastric cancer** development. Investigators have postulated that the natural progression of H. pylori-associated chronic gastritis is to atrophic gastritis, which may be prolonged or shortened by dietary factors. A diet rich in fruits and vegetables and low in starch and salt is associated with a decreased risk of developing **gastric cancer.** The presence of antioxidants in this diet has been postulate to be responsible for the decrease in cancer risk. We postulate that H. pylori increases the susceptibility of gastric cells to injury from reactive oxygen species, in part by generating the production of intracellular reactive oxygen species. The specific aims of this grant are to (1) determine the ability of H. pylori exposure (live bacteria vs. bacterial proteins) to induce related DNA damage in gastric epithelial cell lines; and elucidate the spectrum and repair course of oxidant related DNA adducts formed after exposure to H. pylori. (2) identify the types of reactive oxygen species that are generated by exposure to H. pylori (live bacteria vs. bacterial proteins) using fluorescent microscopy, fluorometer and lucigenin- and luminol-derived chemiluminescence, and determine whether or not cytochrome p450s and/or mitochondria are important in the generation of reactive oxygen species after exposure to H. pylori. (3) Further evaluate the role of glutathione peroxidase and catalase in the detoxification of intracellular reactive oxygen species, and their association with oxidant induced DNA adducts and cell injury. These studies will demonstrate the potential significant role for bacteria in stimulating oxidative cell injury and DNA damage which may increase the susceptibility of lining epithelial cells to carcinogenic conversion.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: HB-EGF'S ROLE IN ATROPHIC GASTRITIS AND GASTRIC CANCER**

  Principal Investigator & Institution: Koh, Theodore J.; Medicine; Univ of Massachusetts Med Sch Worcester Office of Research Funding Worcester, Ma 01655

  Timing: Fiscal Year 2001; Project Start 15-FEB-2001; Project End 30-NOV-2002

  Summary: We have found that gastrin is important in the growth of the colon, with gastrin deficiency resulting in decreased colonic proliferation, and over- expression of glycine-extended gastrin resulting in increased colonic proliferation and colonic mucosal hypertrophy. We have further demonstrated that gastrin appears to be a downstream target of the beta- catenin/Tcf-4 signaling pathway that mediates growth of intestinal polyps. Gastrin is also important in the development of the stomach. Gastrin deficiency results in a marked decreased in parietal cell number which can be rescued by short-term infusions of gastrin. With long term infusion however, parietal cell atrophy occurs. We have shown that transgenic mice that overexpress amidated gastrin also have initial hyperplasia, followed by parietal cell atrophy, foveolar hyperplasia, and eventually invasive **gastric cancer.** At the time when parietal cell atrophy develops, there is an up-regulation of heparin binding epidermal-like growth factor (HB-EGF). We have shown that gastrin can directly up- regulate HB-EGF expression through a PKC-dependent pathway. From these findings we hypothesize that gastrin can directly influence the gastric stem cell to differentiate towards the parietal cell partway, but with time it causes up-regulation of HB-EGF in parietal cells which in a negative feedback loop inhibits differentiation towards parietal cells and promotes differentiation into pit cells. The aims are to test this hypothesis: 1. Determine the cis-acting regulatory elements involved in gastrin's regulation of the HB-EGF promoter. 2. Determine the role of HB-EGF expression in gastric parietal cells on gastric mucosal differentiation by creating transgenic mice that over-expression HB-EGF in parietal cells.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MECHANISM OF ANTICARCINOGENIC ACTIVITY--ORGANOSULFIDES**

  Principal Investigator & Institution: Singh, Shivendra V.; Professor/Program Leader; Pharmacology; University of Pittsburgh at Pittsburgh 350 Thackeray Hall Pittsburgh, Pa 15260

  Timing: Fiscal Year 2001; Project Start 01-APR-1995; Project End 31-AUG-2004

  Summary: The overall objective of the currently funded grant was to elucidate the mechanism of differential efficacy of garlic organosulfides (OSCs) against benzo(a)pyrene (BP)-induced cancer in mice. We fond that differential anti-cancer efficacy of OSCs against forestomach cancer is largely due to differences in their inductive effects on forestomach and hepatic Pi class glutathione transferase (mGSTP1-1). In contrast to forestomach, we found an apparent correlation in lung between anti-cancer efficacy of OSCs and their effects on pulmonary mGSTP1-1. This indicates that, unlike forestomach, induction of mGSTP1-1 alone cannot account for the majority of OSC chemoprotection in the lung. To elucidate the additional mechanisms contributing to OSC chemoprotection in the lung, we will characterize a process that is proximate to tumorigenesis, namely DNA modification, by determining the effects of OSCs (a) on kinetics of antiBPDE-DNA adduct formation and decay in lung, liver, and forestomach of mice, and (b) formation of anti-BPDE adducts at guanine in codons 157, 248 and 273 of P53 in cell culture as well as in mice (aim 1). Damage to DNA is intimately linked to

another novel topic to be investigated under the present application, i.e. the role of biodistribution of GSH conjugate of anti-BPDE (BPD-SG) in BP-linked cancer. The rationale for these studies stems from our recent unpublished studies, which reveal that purified BDP-SG can form adduct with DNA in vitro. Therefore, the tissue distribution and transport of BPD-SG are relevant to tumorigenesis. Consequently, we will characterize the transporter responsible for transport of BPD-SG, and determine the effects of the OSCs on its/their expression. In addition, we will determine the effects of the OSCs on biodistribution of anti-BPDE and its conjugated metabolites (aim 2). The above novel aspects of OSC function may be especially relevant to lung tumorigenicity. At the same time, we will continue and extend our previous work on forestomach where the pertinent effect of OSCs is mGSTP1-1 induction. Here, we will focus our studies on the mechanisms of OSC-mediated induction of mGSTP1-1 using two complementary approaches: determining the structural features of OSCs necessary for induction (aim 3), and characterizing the requisite elements in the mGSTP1-gene (aim 4). In the long-term, these studies may be beneficial not only in identifying most active natural OSC, but also in the synthesis of OSC analogues that retain biological activity without having properties that limit their usefulness as chemoprotective agents. Insights gained from these studies should help in devising practical dietary recommendation for humans.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MECHANISMS OF ESOPHAGEAL CARCINOGENESIS**

  Principal Investigator & Institution: Rustgi, Anil K.; T. Grier Miller Professor; Medicine; University of Pennsylvania 3451 Walnut Street Philadelphia, Pa 19104

  Timing: Fiscal Year 2003; Project Start 15-AUG-2003; Project End 30-JUN-2008

  Summary: This revised Program Project grant proposal entitled. Mechanisms of Esophageal Carcinogenesis. seeks to define and elucidate the molecular mechanisms underlying squamous cell carcinogenesis in the esophagus with eventual translation to new strategies in diagnosis and therapy. Based upon historical interactive collaborations between the Project Leaders and usage of the Scientific Core Facilities, this program project focuses upon hypothesis-driven research that is innovative. The experience and expertise of the Project Leaders, in concert with the platforms provided by the Core Facilities, will result in enhancement of the research that would not be possible if the projects were independent of each other. Project 1 (Rustgi, Project Leader) will focus upon the biological roles of epidermal growth factor receptor (EGFR) overexpression in the early or precursor stages of esophageal carcinogenesis and their functional consequences. Project 2 (Herlyn, Project Leader) will emphasize the interplay of epithelial-stromal interactions, especially the EGF and TGFbeta receptor systems, and their influence on esophageal carcinogenesis. Project 3 (El-Deiry, Project Leader) will elucidate the role of the TRAIL apoptotic pathway in esophageal carcinogenesis. Importantly, the projects are further united by their utilization of unique organotypic cultures and genetically engineered mice that have esophageal epithelial specific gene expression, both developed by the Project Leaders. Three highly successful Core facilities are designed to provide esophageal cancer-specific services for the stimulation of collaborative research: Morphology, Molecular Biology/Gene Expression and Administrative. This Program Project has the unequivocal support of the University of Pennsylvania Cancer Center and Medical School and as such will foster interdisciplinary research that leads to a cooperative understanding of the molecular processes that form and regulate esophageal carcinogenesis. Finally, the Program Project is in concert with the NCI Progress Review Group for esophageal and **stomach cancers.**

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MECHANISTIC STUDIES OF ALKYL HYDROPEROXIDE REDUCTASE**

  Principal Investigator & Institution: Poole, Leslie B.; Associate Professor of Biochemistry; Biochemistry; Wake Forest University Health Sciences Winston-Salem, Nc 27157

  Timing: Fiscal Year 2002; Project Start 01-DEC-1993; Project End 31-DEC-2005

  Summary: The bacterial alkyl hydroperoxide reductase system serves to protect against the toxic and mutagenic effects of oxidative stress. AhpC, the cysteine-based peroxidase component, is a member of the ubiquitous "peroxiredoxin" (Prx) family and reduces H2O2 and organic hydroperoxides through transient generation of a cysteine sulfenic acid on the enzyme and subsequent intersubunit disulfide bond formation. AhpF, the flavin-containing reductase component, is present in most, but not all, bacteria and efficiently transfers electrons from NADH (or NADPH) to AhpC. Mammalian Prxs have been implicated in such diverse processes as cellular proliferation and differentiation, immune responses and cell signaling. While most AhpC/Prx homologues are highly expressed and play an important role in oxidative defense, only the AhpC from Helicobacter pylori (the causative agent of gastric ulcers linked to stomach cancer) is known to be absolutely required for viability of that organism. The first specific aim of the proposal focuses on (1) the conformational states, oligomerization and membrane association thought to change during turnover of Salmonella typhimurium AhpC and mammalian Prx II in the presence of peroxides, and (2) the participation of a putative general base catalyst (Arg119) in peroxide reduction by AhpC. The second specific aim explores the mechanism of electron transfers to and from the N-terminal disulfide center of S. typhimurium AhpF. This center (Cys129- Cys132) is part of a distinct redox domain in AhpF known from our studies to mediate electron transfer from redox centers (FAD and Cys345-Cys348) in the C-terminal portion of the protein to AhpC. Our recent crystallographic analyses of AhpF have demonstrated a unique architecture for the N-terminal domain (NTD) and a poorly- characterized homologue, protein disulfide oxidoreductase (PDO), from a thermophile; both NTD and PDO are composed of two intimately-associated thioredoxin-like folds with a putative active site glutamate from the first half acting as a general acid-base catalyst for chemistry at the Cys-X-X-Cys motif of the second half of the domain. Our crystallographic analyses of AhpF also strongly support the involvement of large domain movements in the catalytic cycle of AhpF. Crystallographic and fluorescence approaches will be used in the third specific aim to define the nature of AhpF-AhpC interactions as well as inter- domain interactions within AhpF during intrasubunit electron transfer. Understanding of catalysis by bacterial AhpF and both bacterial and mammalian AhpC homologues will contribute to our knowledge of oxidative stress defense mechanisms and redox-regulated cell signaling in both pathogens and mammalian hosts. Therapeutic intervention in preventing oxidative damage involved in human degenerative diseases, cancer and aging as well as in combating pathogenic defense systems requires a complete molecular and biological understanding of the alkyl hydroperoxide reductase enzymes from both bacterial and human sources.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MOUSE MODELS OF GASTRIC CANCER**

  Principal Investigator & Institution: Wang, Timothy C.; Professor; Medicine; Univ of Massachusetts Med Sch Worcester Office of Research Funding Worcester, Ma 01655

  Timing: Fiscal Year 2001; Project Start 01-MAY-2001; Project End 30-APR-2006

Summary: (Adapted from the investigator's abstract) Helicobacter pylori infection has been strongly linked to both hypergastrinemia and **gastric cancer,** but the role of elevated serum gastrin levels in progression to malignancy has not been well studied. Previous investigations have suggested that parietal cell loss or gastric atrophy represents a key preneoplastic precursor. Our group has developed a hypergastrinemic transgenic (insulin-gastrin or INS-GAS) mouse model that shows progression over time to gastric atrophy, intestinal metaplasia, dysplasia and **gastric cancer.** Further analyses of our INS-GAS mouse model, as well as studies in gastrin deficient (GAS-KO) mice, suggest that chronic elevations of amidated gas trin (G- 17) can lead to parietal cell decline, which can be prevented by infusions of incompletely processed glycine-extended gastrin (G-gly). Gastrin may also promote the development of cancer through induction of cyclooxygenase-2 (COX-2), resulting in increased proliferation and upregulation of VEGF. Helicobacterfelis infection of INS-GAS mice leads to a marked acceleration of **gastric cancer** and early mortality, suggesting a strong synergistic interaction between hypergastrinemia and Helicobacter infection. We propose to explore further the role of gastrin in gastric carcinogenesis. (1) A possible interaction between hypergastrinemia and p53 mutations will be investigated. Alterations in the p53 gene will be investigated in neoplastic lesions, and INS-GAS mice will be crossed with p53 null mice and the response to Helicobacter infection tested. (2). Possible downstream targets (COX2 and VEGF) in gastrin/Helicobacter-dependent **gastric cancer** will be studied. Selective COX-2 antagonists will be administered to Helicobacter-infected INS-GAS mice, and INS-GAS mice will be crossed to VEGF-GFP transgenic mice to assess VEGF gene expression during cancer progression. (3). The importance of the parietal cell CCK-B/gastrin receptor and Gq signaling pathways will be determined. Highly specific CCK-B receptor antagonists will be administered, and a constitutively active Gq-coupled CCK-B receptor targeted to the parietal cell in transgenic mice. (4). The possible protective effective of glycine-extended gastrin, (G-gly) in the prevention of atrophy/cancer will be studied. Double transgenic mice (INS-GAS x G-gly) or INS-GAS mice receiving infusions of 0-gly will be infected with Helicobacter and progression to atrophy and cancer analyzed. Overall, these studies will explore the mechanisms by which gastrin may influence the parietal cell and susceptibility to gastric neoplasia.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MUTATION AND ENVIRONMENTAL EXPOSURES**

  Principal Investigator & Institution: Hunt, Jay D.; Professor; Biochem and Molecular Biology; Louisiana State Univ Hsc New Orleans New Orleans, La 70112

  Timing: Fiscal Year 2001; Project Start 03-APR-2001; Project End 31-MAR-2004

  Summary: (Provided by Applicant) Elevated mortality rates of lung cancer along the Mississippi River in Louisiana have been documented for 50 years and are among the highest in the nation. The Lower Mississippi River interagency Cancer Study (LMRICS, Elizabeth T. H. Fontham, Dr. P. H., PI) is funded by the EPA to conduct a population-based case-control study of lung cancer in the river parishes. LMRICS will collect tumor samples and exposure data for analysis. The ACS has funded Jay D. Hunt, III, Ph.D. to test the hypothesis that the elevated incidence of lung cancer in the river parishes is associated with chronic exposure to occupational and environmental chemical carcinogens, in addition to tobacco carcinogens, in susceptible individuals as defined by specific phase I and phase II genetic polymorphisms resulting in mutations in key regulatory genes in somatic cells. This funded project will provide the necessary research experience for Dr. Hunt's career development as a molecular epidemiologist.

Dr. Elizabeth Fontham will serve as Dr. Hunt's mentor. This application proposes a structured approach to Dr. Hunt obtaining formal training in epidemiology and biostatistics. With this formal training in epidemiology and biostatistics, he will be able to obtain his long-term goals of integrating his training in molecular genetics with molecular epidemiology. Dr. Hunt's long-term career goals are: (1) to continue in his academic, full- time tenure-track position conducting basic and translational molecular genetics studies of non-small cell lung cancer and **stomach cancer;** (2) to integrate the findings at the bench to develop new biomarkers of prognosis and progression in lung cancer and **stomach cancer;** and (3) to further develop a molecular epidemiology program in cancer for the Stanley S. Scott Cancer Center at LSUHSC-New Orleans.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: NOVEL INSIGHTS INTO GASTRIC CANCER**

  Principal Investigator & Institution: Mishra, Lopa; Associate Professor; Medicine; Georgetown University Washington, Dc 20057

  Timing: Fiscal Year 2003; Project Start 01-JUL-2003; Project End 30-JUN-2004

  Summary: (provided by applicant): **Gastric cancer** remains the second most common cause of cancer incidence world wide, with a five year survival of less than 20 percent. Factors responsible include the highly aggressive and metastatic nature of the disease. This current proposal supports a research workshop entitled "Novel Insights into Gastric Cancer". The hypothesis for the workshop proposal is that a better understanding of the molecular mechanisms in the development of **gastric cancer** will help in developing improved strategies for the prevention, diagnoses, and treatment of gastric carcinogenesis. It is anticipated that all attendees will develop a greater appreciation of the importance of early diagnoses of the disease, and new approaches for the treatment of **gastric cancer.** The proposed workshop, entitled "Novel Insights into Gastric Cancer" will take place on October 3rd, 2003 at the Levy Center, Georgetown University, Washington, D.C.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: PHASE II RANDOMIZED TRIAL OF CPT-11 AND MITOMYCIN C**

  Principal Investigator & Institution: Villalona, Miguel A.; Assistant Professor; Internal Medicine; Ohio State University 1960 Kenny Road Columbus, Oh 43210

  Timing: Fiscal Year 2002; Project Start 24-SEP-2002; Project End 31-AUG-2004

  Summary: (provided by applicant): The poor prognosis of patients with advanced gastric and esophageal cancer indicates an obvious need for more effective treatments. Based on a response rate approaching 50% in single institution trials, irinotecan- (CPT-11) cisplatin based therapy has been gaining support. However, responses are short lived and a high incidence of significant toxicity has been associated with this regimen. Based on the preclinical findings of others, documenting upregulation of topoisomerase I (Topo I) activity, the target enzyme for CPT-11, after administration of mitomycin C (MMC) and our observation that CPT-11 decreases the levels of DT-Diaphorase (NQ0R), we recently completed a pharmacologically designed phase I study of the combination. Low doses of MMC were used to modulate Topo I and CPT-11 activity. We demonstrated upregulation of expression of the Topo I gene in peripheral blood mononuclear cells (PBMC) after MMC administration, good tolerability and encouraging antitumor activity in patients with refractory solid malignancies that included patients with esophageal and **stomach cancer.** In this proposal, we plan to study advanced- and previously-untreated patients with esophageal and GE junction

adenocarcinomas. A two arm, randomized, phase II trial will compare two schedules of sequential MMC and CPT-11 to pick the best of the two schedules for phase III evaluation. As a potential proof-of-concept in humans of the importance of NQ01 mutations, topoisomerase I and carboxylesterase gene expression, as predictors of chemoresistance to MMC and CPT-11, we will obtain tumor tissue and PBMC samples in order to evaluate possible associations between these genes, prognosis and antitumor activity.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: STRUCTURES AND DYNAMICS OF CHEA KINASE AND ITS COMPLEXES**

  Principal Investigator & Institution: Crane, Brian R.; Chemistry and Chemical Biology; Cornell University Ithaca Office of Sponsored Programs Ithaca, Ny 14853

  Timing: Fiscal Year 2003; Project Start 01-MAY-2003; Project End 30-APR-2008

  Summary: (provided by applicant): The protein histidine kinase CheA is central to signal transduction pathways that allow prokaryotes to sense and respond to their environments. During chemotaxis, CheA couples changes in ligand occupancy of transmembrane chemoreceptors to phosphorylation of the response regulator CheY; CheY controls the flagellar motor. In understanding the well-characterized phosphorelay of chemotaxis, central unanswered questions concern how receptor occupancy regulates kinase activity and how CheA coordinates phosphate flow from ATP to response regulators via an internal phosphorylation site. To address these issues we propose synergistic biophysical experiments centered on the crystallographic structure determinations of dimeric CheA in complex with receptor fragments and the receptor coupling protein CheW. To complement structures, solution studies will probe CheA dynamics and partner interactions. Relative CheA domain motions and subunit associations likely control interactions with its signaling partners. Crystals of CheA in complex with CheW and nucleotides will reveal new aspects of CheA catalysis and regulation. Soluble fragments of transmembrane receptors that activate the CheA kinase have been identified and overexpressed for crystallization with CheA. Resonance energy transfer and electron-spin interactions between CheA domains tagged with probes will correlate solution conformations to crystallographic structures and define limits of movement in the presence of receptor and CheW. Kinetic studies will interrogate CheA subunit exchange to determine its potential role in transmembrane signaling and response regulator activation. Our experiments will employ chemotaxis proteins from Thermatoga maritima, which due to their thermostability offer distinct advantages in crystallography, dynamical studies and kinetics. This work will lead to novel strategies for design of small molecules capable of modulating CheA activity. Given the absence of histidine kinases in eukaryotes and their essential role in bacterial virulence, they are ideal targets for a new class of antibiotics. Thus, we are also pursuing structure determinations of CheA from Helicobacter pylori, a known pathogen linked to ulcers and **stomach cancer.**

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: SURROGATE BIOMARKERS OF MICROMETASTATIC GASTRIC CANCER**

  Principal Investigator & Institution: Smolka, Adam J.; Medicine; Medical University of South Carolina 171 Ashley Ave Charleston, Sc 29425

  Timing: Fiscal Year 2003; Project Start 30-SEP-2003; Project End 31-AUG-2005

Summary: (provided by applicant): The long term goal of this study is development of surrogate molecular markers for early detection of micrometastatic **stomach cancer.** Gastric adenocarcinoma is the second leading cause of cancer-related death in the world. With a U.S. prevalence rate of 5-7 cases per 100,000 population and 20,000 new cases per year, **gastric cancer** nonetheless accounts for 3% of all U.S. cancer deaths. Gastric neoplasms are predominantly (95%) adenocarcinomas which are rarely diagnosed in their early stages. At diagnosis, 25% of patients have disease confined to the stomach, 50% show locoregional lymph node metastases and extragastric spread, and 25% have distant metastases. Those patients presenting with cancer confined to the stomach are candidates for curative gastric resection. Unfortunately, about 70% of these patients die from disease relapse within 5 years of surgery. Early detection of gastric micrometastases is thus a major clinical challenge. The hypothesis driving the proposed study is that gastric epithelial cell-specific genes expressed in ectopic gastric tumor cells in lymph nodes are molecular markers for early detection of metastatic **gastric cancers.** Our preliminary data indicate that quantitative real-time RT-PCR readily detects expression of several mRNA transcripts in human gastric biopsies and in human gastric adenocarcinoma cells. Based on these and related RT-PCR data measuring expression of lung cancer-associated mRNAs in mediastinal lymph nodes, we propose two specific aims: 1) To identify a panel of RT-PCR primer pairs for quantitative detection of genes that may be over-expressed in malignant lymph nodes of **gastric cancer** patients, and 2) To establish criteria for interpretation of marker gene RT-PCR data by screening lymph node aspirates from **gastric cancer** patients. We anticipate that the proposed study will establish criteria for interpretation of RT-PCR data from lymph node cells acquired by endoscopic ultrasonographic-fine needle aspiration, and will serve as the basis for prospective evaluation of quantitative real-time RT-PCR and its correlation with clinical outcome in a more comprehensive cohort of patients. The successful development and validation of a lymph node RT-PCR-based assay for micrometastatic **stomach cancer** is likely to have a significant clinical impact.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: THE ROLE OF MICROSATELLITE INSTABILITY IN CANCER**

  Principal Investigator & Institution: Garner, Harold R.; Professor; Ctr for Human Growth and Devel; University of Texas Sw Med Ctr/Dallas Dallas, Tx 753909105

  Timing: Fiscal Year 2003; Project Start 01-JUL-2003; Project End 30-JUN-2006

  Summary: (provided by applicant): While the complete etiology of epithelial-derived cancers is not yet known, several correlative genetic and environmental factors have been identified. One specific class of genetic events receiving increasing attention as both a marker and a contributing factor of oncogenesis involves microsatellite length mutations, manifested as microsatellite alteration (MA) and microsatellite instability (MSI) (Forgacs et al., 2001; Woerner et al., 2001). Microsatellite repeats are common and often polymorphic in mammalian genomes. We have developed and verified algorithms for predicting microsatellites, which are most likely to be subject to frequent mutation (Fondon et al., 1998). Somatic microsatellite length mutations are commonly observed in colon, endometrial, breast, and **stomach cancers,** and have been shown to be a prominent feature of some lung cancers (Girard, et al., 2001; Forgacs, et al., 2001; Wistuba et al., 2000). MSI has been shown to be a manifestation of defects in DNA mismatch repair genes, and is a useful indicator of a class of defects in DNA mismatch repair. We hypothesize that both somatic and germline microsatellite mutation may play an important etiological role in the development and progression of some cancers, and it is critical to have knowledge of their mutational frequency, complexity, and

diversity among types of epithelial-derived cancers, as well as an understanding of how they vary in different normal genetic backgrounds. We have inspected the genome for gene-associated microsatellites, and have identified over 10,000 loci within transcribed regions of genes that are likely to experience expansion and/or contraction mutations. Many of these are in coding regions, with 8% of these predicted to result in frame-shifting variants when altered and some are in tumor suppressors (Wren et al., 2001). In Aim 1 we will refine methods for predicting microsatellite mutation events associated with cancer progression, scan the recently completed human genome for predicted repeat polymorphisms in genes known or suspected to have a role in tumorigenesis, and select -150 of these loci for genotyping (Aim 2) in a panel of DNAs from lung, breast, ovarian and colorectal cancer cell lines, including many with matched B lymphocyte DNAs in addition to primary tumor and normal blood DNAs. We will also (Aim 3) investigate the effects of these mutations identified in Aim 2 on splicing by correlating them with the results of a quantitative global survey of splicing isoforms.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

E-Journals: PubMed Central[3]

PubMed Central (PMC) is a digital archive of life sciences journal literature developed and managed by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM).[4] Access to this growing archive of e-journals is free and unrestricted.[5] To search, go to **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Pmc**, and type "stomach cancer" (or synonyms) into the search box. This search gives you access to full-text articles. The following is a sample of items found for stomach cancer in the PubMed Central database:

- **A Large Cell-Adhesive Scatter Factor Secreted by Human Gastric Carcinoma Cells.** by Miyazaki K, Kikkawa Y, Nakamura A, Yasumitsu H, Umeda M.; 1993 Dec 15; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=48065
- **Accuracy of a Commercial Enzyme-Linked Immunosorbent Assay for CagA in Patients from Brazil with and without Gastric Carcinoma.** by Rocha AM, Rocha GA, Santos A, de Oliveira CA, Queiroz DM.; 2003 Jan; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=149573
- **Alterations of E-cadherin and [beta]-catenin in gastric cancer.** by Huiping C, Kristjansdottir S, Jonasson JG, Magnusson J, Egilsson V, Ingvarsson S.; 2001; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=60969
- **Composition and Gene Expression of the cag Pathogenicity Island in Helicobacter pylori Strains Isolated from Gastric Carcinoma and Gastritis Patients in Costa Rica.** by Occhialini A, Marais A, Urdaci M, Sierra R, Munoz N, Covacci A, Megraud F.; 2001 Mar; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=98100

---

[3] Adapted from the National Library of Medicine: **http://www.pubmedcentral.nih.gov/about/intro.html**.

[4] With PubMed Central, NCBI is taking the lead in preservation and maintenance of open access to electronic literature, just as NLM has done for decades with printed biomedical literature. PubMed Central aims to become a world-class library of the digital age.

[5] The value of PubMed Central, in addition to its role as an archive, lies in the availability of data from diverse sources stored in a common format in a single repository. Many journals already have online publishing operations, and there is a growing tendency to publish material online only, to the exclusion of print.

- **Distribution of Open Reading Frames of Plasticity Region of Strain J99 in Helicobacter pylori Strains Isolated from Gastric Carcinoma and Gastritis Patients in Costa Rica.** by Occhialini A, Marais A, Alm R, Garcia F, Sierra R, Megraud F.; 2000 Nov; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=97705
- **DNA Fingerprinting of Single Colonies of Helicobacter pylori from Gastric Cancer Patients Suggests Infection with a Single Predominant Strain.** by Miehlke S, Thomas R, Guiterrez O, Graham DY, Go MF.; 1999 Jan; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=84224
- **E-Cadherin Gene Mutations in Human Gastric Carcinoma Cell Lines.** by Oda T, Kanai Y, Oyama T, Yoshiura K, Shimoyama Y, Birchmeier W, Sugimura T, Hirohashi S.; 1994 Mar 1; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=43263
- **Epstein-Barr virus infection of human gastric carcinoma cells: implication of the existence of a new virus receptor different from CD21.** by Yoshiyama H, Imai S, Shimizu N, Takada K.; 1997 Jul; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=191818
- **Establishment and Characterization of a Human Epstein-Barr Virus-Associated Gastric Carcinoma in SCID Mice.** by Iwasaki Y, Chong JM, Hayashi Y, Ikeno R, Arai K, Kitamura M, Koike M, Hirai K, Fukayama M.; 1998 Oct; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=110200
- **Gastric Carcinoma: Monoclonal Epithelial Malignant Cells Expressing Epstein-Barr Virus Latent Infection Protein.** by Imai S, Koizumi S, Sugiura M, Tokunaga M, Uemura Y, Yamamoto N, Tanaka S, Sato E, Osato T.; 1994 Sep 13; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=44761
- **Genetic Changes in the Transforming Growth Factor [beta] (TGF-[beta]) Type II Receptor Gene in Human Gastric Cancer Cells: Correlation with Sensitivity to Growth Inhibition by TGF-[beta].** by Park K, Kim S, Bang Y, Park J, Kim NK, Roberts AB, Sporn MB.; 1994 Sep 13; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=44688
- **Helicobacter pylori Activates the Cyclin D1 Gene through Mitogen- Activated Protein Kinase Pathway in Gastric Cancer Cells.** by Hirata Y, Maeda S, Mitsuno Y, Akanuma M, Yamaji Y, Ogura K, Yoshida H, Shiratori Y, Omata M.; 2001 Jun; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=98458
- **Infant mortality, stomach cancer, stroke, and coronary heart disease: ecological analysis.** by Leon DA, Davey Smith G.; 2000 Jun 24; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=27414
- **Interleukin-1[beta] Expression in Human Gastric Carcinoma with Epstein-Barr Virus Infection.** by Chong JM, Sakuma K, Sudo M, Osawa T, Ohara E, Uozaki H, Shibahara J, Kuroiwa K, Tominaga SI, Hippo Y, Aburatani H, Funata N, Fukayama M.; 2002 Jul; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=136266

- **K-sam, an Amplified Gene in Stomach Cancer, is a Member of the Heparin- Binding Growth Factor Receptor Genes.** by Hattori Y, Odagiri H, Nakatani H, Miyagawa K, Naito K, Sakamoto H, Katoh O, Yoshida T, Sugimura T, Terada M.; 1990 Aug 1; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=54454
- **Low antigenicity of the polysaccharide region of Helicobacter pylori lipopolysaccharides derived from tumors of patients with gastric cancer.** by Yokota S, Amano K, Hayashi S, Fujii N.; 1997 Sep; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=175500
- **Mechanisms involved in Helicobacter pylori-induced interleukin-8 production by a gastric cancer cell line, MKN45.** by Aihara M, Tsuchimoto D, Takizawa H, Azuma A, Wakebe H, Ohmoto Y, Imagawa K, Kikuchi M, Mukaida N, Matsushima K.; 1997 Aug; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=175455
- **Potential role and chronology of abnormal expression of the Deleted in Colon Cancer (DCC) and the p53 proteins in the development of gastric cancer.** by Graziano F, Cascinu S, Staccioli MP, Catalano V, Rossi MC, Baldelli AM, Giordani P, Muretto P, Catalano G.; 2001; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=37544
- **Pretreatment with Restriction Enzyme or Bovine Serum Albumin for Effective PCR Amplification of Epstein-Barr Virus DNA in DNA Extracted from Paraffin-Embedded Gastric Carcinoma Tissue.** by Satoh Y, Takasaka N, Hoshikawa Y, Osaki M, Ohfuji S, Ito H, Kaibara N, Kurata T, Sairenji T.; 1998 Nov; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=105349
- **Relationship of Anti-Lewis x and Anti-Lewis y Antibodies in Serum Samples from Gastric Cancer and Chronic Gastritis Patients to Helicobacter pylori-Mediated Autoimmunity.** by Heneghan MA, McCarthy CF, Janulaityte D, Moran AP.; 2001 Aug; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=98564
- **Role of sulfatides in adhesion of Helicobacter pylori to gastric cancer cells.** by Kamisago S, Iwamori M, Tai T, Mitamura K, Yazaki Y, Sugano K.; 1996 Feb; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=173811
- **Somatic frameshift mutations in the Bloom syndrome BLM gene are frequent in sporadic gastric carcinomas with microsatellite mutator phenotype.** by Calin G, Ranzani GN, Amadori D, Herlea V, Matei I, Barbanti-Brodano G, Negrini M.; 2001; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=48142
- **The Epstein-Barr Virus Immediate-Early Protein BZLF1 Induces Expression of E2F-1 and Other Proteins Involved in Cell Cycle Progression in Primary Keratinocytes and Gastric Carcinoma Cells.** by Mauser A, Holley-Guthrie E, Zanation A, Yarborough W, Kaufmann W, Klingelhutz A, Seaman WT, Kenney S.; 2002 Dec; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&artid=136734
- **The TPR-MET Oncogenic Rearrangement is Present and Expressed in Human Gastric Carcinoma and Precursor Lesions.** by Soman NR, Correa P, Ruiz BA, Wogan GN.; 1991 Jun 1; http://www.pubmedcentral.gov/articlerender.fcgi?tool=pmcentrez&rendertype=abstract&artid=51773

The National Library of Medicine: PubMed

One of the quickest and most comprehensive ways to find academic studies in both English and other languages is to use PubMed, maintained by the National Library of Medicine.[6] The advantage of PubMed over previously mentioned sources is that it covers a greater number of domestic and foreign references. It is also free to use. If the publisher has a Web site that offers full text of its journals, PubMed will provide links to that site, as well as to sites offering other related data. User registration, a subscription fee, or some other type of fee may be required to access the full text of articles in some journals.

To generate your own bibliography of studies dealing with stomach cancer, simply go to the PubMed Web site at **http://www.ncbi.nlm.nih.gov/pubmed**. Type "stomach cancer" (or synonyms) into the search box, and click "Go." The following is the type of output you can expect from PubMed for stomach cancer (hyperlinks lead to article summaries):

- **A case-control study of stomach cancer in Mumbai, India.**
  Author(s): Rao DN, Ganesh B, Dinshaw KA, Mohandas KM.
  Source: International Journal of Cancer. Journal International Du Cancer. 2002 June 10; 99(5): 727-31.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12115507&dopt=Abstract

- **A case-series study of p53 nuclear overexpression in early-stage stomach cancer.**
  Author(s): Zhang ZF, Karpeh MS, Lauwers GY, Marrero AM, Pollack D, Cordon-Cardo C, Begg CB.
  Source: Annals of the New York Academy of Sciences. 1995 September 30; 768: 269-71.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8526364&dopt=Abstract

- **A meta-analysis of soyfoods and risk of stomach cancer: the problem of potential confounders.**
  Author(s): Wu AH, Yang D, Pike MC.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2000 October; 9(10): 1051-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11045787&dopt=Abstract

- **A novel Bcl-2 related gene, Bfl-1, is overexpressed in stomach cancer and preferentially expressed in bone marrow.**
  Author(s): Choi SS, Park IC, Yun JW, Sung YC, Hong SI, Shin HS.
  Source: Oncogene. 1995 November 2; 11(9): 1693-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7478596&dopt=Abstract

---

[6] PubMed was developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM) at the National Institutes of Health (NIH). The PubMed database was developed in conjunction with publishers of biomedical literature as a search tool for accessing literature citations and linking to full-text journal articles at Web sites of participating publishers. Publishers that participate in PubMed supply NLM with their citations electronically prior to or at the time of publication.

- **A novel telomere elongation in an adriamycin-resistant stomach cancer cell line with decreased telomerase activity.**
  Author(s): Kim JH, Lee GE, Kim JC, Lee JH, Chung IK.
  Source: Molecules and Cells. 2002 April 30; 13(2): 228-36.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12018844&dopt=Abstract

- **A pilot study to evaluate stomach cancer risk reduction by Helicobacter pylori eradication.**
  Author(s): Hamajima N, Matuo K, Watanabe Y, Suzuki T, Nakamura T, Matsuura A, Yamao K, Ohashi K, Tominaga S.
  Source: The American Journal of Gastroenterology. 2002 March; 97(3): 764-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11922582&dopt=Abstract

- **A population-based case-control study for examining early life influences on geographical variation in adult mortality in England and Wales using stomach cancer and stroke as examples.**
  Author(s): Maheswaran R, Strachan DP, Dodgeon B, Best NG.
  Source: International Journal of Epidemiology. 2002 April; 31(2): 375-82.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11980799&dopt=Abstract

- **A positive oesophageal margin in stomach cancer.**
  Author(s): Law S, Wong J.
  Source: The Australian and New Zealand Journal of Surgery. 2000 October; 70(10): 697-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11021480&dopt=Abstract

- **A potential use of a synthetic retinoid TAC-101 as an orally active agent that blocks angiogenesis in liver metastases of human stomach cancer cells.**
  Author(s): Oikawa T, Murakami K, Sano M, Shibata J, Wierzba K, Yamada Y.
  Source: Japanese Journal of Cancer Research : Gann. 2001 November; 92(11): 1225-34.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11714448&dopt=Abstract

- **A prospective cohort study of soy product intake and stomach cancer death.**
  Author(s): Nagata C, Takatsuka N, Kawakami N, Shimizu H.
  Source: British Journal of Cancer. 2002 July 1; 87(1): 31-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12085252&dopt=Abstract

- **A prospective cohort study on vegetable and fruit consumption and stomach cancer risk in The Netherlands.**
  Author(s): Botterweck AA, van den Brandt PA, Goldbohm RA.
  Source: American Journal of Epidemiology. 1998 November 1; 148(9): 842-53.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9801014&dopt=Abstract

- **A prospective correlation of Lauren's histological classification of stomach cancer with clinicopathological findings including DNA flow cytometry.**
  Author(s): Lee KH, Lee JH, Cho JK, Kim TW, Kang YK, Lee JS, Kim WK, Chung JG, Lee IC, Sun HS.
  Source: Pathology, Research and Practice. 2001; 197(4): 223-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11358006&dopt=Abstract

- **A prospective study of diet and stomach cancer mortality in United States men and women.**
  Author(s): McCullough ML, Robertson AS, Jacobs EJ, Chao A, Calle EE, Thun MJ.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2001 November; 10(11): 1201-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11700269&dopt=Abstract

- **A prospective study of stomach cancer death in relation to green tea consumption in Japan.**
  Author(s): Hoshiyama Y, Kawaguchi T, Miura Y, Mizoue T, Tokui N, Yatsuya H, Sakata K, Kondo T, Kikuchi S, Toyoshima H, Hayakawa N, Tamakoshi A, Ohno Y, Yoshimura T; Japan Collaborative Cohort Study Group.
  Source: British Journal of Cancer. 2002 July 29; 87(3): 309-13.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12177800&dopt=Abstract

- **A rat model system for predisposition to stomach cancer.**
  Author(s): Ushijima T, Nagao M.
  Source: Prog Exp Tumor Res. 1999; 35: 120-30. Review. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10377756&dopt=Abstract

- **A topographic analysis of atrophic gastritis and stomach cancer risk. A clinicoepidemiological study in Poland.**
  Author(s): Jedrychowski W, Popiela T, Steindorf K, Matyja A, Gryglewski A, Nowak K, Kieltyka A, Wahrendorf J, Becher H.
  Source: Cent Eur J Public Health. 1997 September; 5(3): 117-21.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9386896&dopt=Abstract

- **Accuracy of self-report for stomach cancer screening.**
  Author(s): Tsubono Y, Fukao A, Hisamichi S, Hosokawa T, Sugawara N.
  Source: Journal of Clinical Epidemiology. 1994 September; 47(9): 977-81.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7730914&dopt=Abstract

- **Active and passive smoking and the risk of stomach cancer, by subsite, in Canada.**
  Author(s): Mao Y, Hu J, Semenciw R, White K; Canadian Cancer Registries Epidemiology Research Group.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 2002 February; 11(1): 27-38.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11917206&dopt=Abstract

- **Activity-guided fractionation of green tea extract with antiproliferative activity against human stomach cancer cells.**
  Author(s): Clin Evid. 2002 Dec;(8):469-80
  Source: Biological & Pharmaceutical Bulletin. 2002 September; 25(9): 1238-40.
  http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12603895

- **Aggregation of stomach cancer history in parents and offspring in comparison with other sites.**
  Author(s): Kondo T, Toyoshima H, Tsuzuki Y, Hori Y, Yatsuya H, Tamakoshi K, Tamakoshi A, Ohno Y, Kikuchi S, Sakata K, Hoshiyama Y, Hayakawa N, Tokui N, Mizoue T, Yoshimura T.
  Source: International Journal of Epidemiology. 2003 August; 32(4): 579-83.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12913033&dopt=Abstract

- **An interim analysis of phase I clinical trial of MCC-465, a doxorubicin (DXR) encapsulated in PEG-immunoliposome, in patients with metastatic stomach cancer.**
  Author(s): Matsumura Y.
  Source: Advances in Experimental Medicine and Biology. 2003; 519: 179-93.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12675215&dopt=Abstract

- **Antioxidant vitamins and stomach cancer: the role of ecologic studies.**
  Author(s): Kromhout D, Bueno-de-Mesquita HB.
  Source: Cancer Letters. 1997 March 19; 114(1-2): 333-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9103324&dopt=Abstract

- **Antioxidants, Helicobacter pylori and stomach cancer in Venezuela.**
  Author(s): de Sanjose S, Munoz N, Sobala G, Vivas J, Peraza S, Cano E, Castro D, Sanchez V, Andrade O, Tompkins D, Schorah CJ, Axon AT, Benz M, Oliver W.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 1996 February; 5(1): 57-62.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8664811&dopt=Abstract

- **Association of Helicobacter pylori infection with precancerous lesions and stomach cancer: a case-control study in Yangzhong County.**
  Author(s): Shi Y, Li J, Li M, Wang L, Guo W, Qin D, Geng C, Forman D, Newell DG, Peto R, Blot WJ.
  Source: Chinese Medical Sciences Journal = Chung-Kuo I Hsueh K'o Hsueh Tsa Chih / Chinese Academy of Medical Sciences. 1997 September; 12(3): 175-80.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11360629&dopt=Abstract

- **Associations between stomach cancer incidence and drinking water contamination with atrazine and nitrate in Ontario (Canada) agroecosystems, 1987-1991.**
  Author(s): Van Leeuwen JA, Waltner-Toews D, Abernathy T, Smit B, Shoukri M.
  Source: International Journal of Epidemiology. 1999 October; 28(5): 836-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10597979&dopt=Abstract

- **Attributable risks for stomach cancer in northern Italy.**
  Author(s): La Vecchia C, D'Avanzo B, Negri E, Decarli A, Benichou J.
  Source: International Journal of Cancer. Journal International Du Cancer. 1995 March 16; 60(6): 748-52.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7896439&dopt=Abstract

- **Bilateral metastatic ovarian tumors (Krukenberg's tumors) in the course of stomach cancer.**
  Author(s): Studzinski Z, Zajewski W.
  Source: Archives of Gynecology and Obstetrics. 2002 December; 267(2): 95-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12439555&dopt=Abstract

- **Black tea theaflavins induce programmed cell death in cultured human stomach cancer cells.**
  Author(s): Hibasami H, Komiya T, Achiwa Y, Ohnishi K, Kojima T, Nakanishi K, Sugimoto Y, Hasegawa M, Akatsuka R, Hara Y.
  Source: International Journal of Molecular Medicine. 1998 April; 1(4): 725-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9852288&dopt=Abstract

- **Bracken fern (Pteridium aquilinum) ingestion and oesophageal and stomach cancer.**
  Author(s): Marliere CA, Wathern P, Castro MC, O'Connor P, Galvao MA.
  Source: Iarc Sci Publ. 2002; 156: 379-80. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12484211&dopt=Abstract

- **BRAF and KRAS mutations in stomach cancer.**
  Author(s): Lee SH, Lee JW, Soung YH, Kim HS, Park WS, Kim SY, Lee JH, Park JY, Cho YG, Kim CJ, Nam SW, Kim SH, Lee JY, Yoo NJ.
  Source: Oncogene. 2003 October 9; 22(44): 6942-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=14534542&dopt=Abstract

- **Breast cancer, birth cohorts, and Epstein-Barr virus: methodological issues in exploring the "hygiene hypothesis" in relation to breast cancer, Hodgkin's disease, and stomach cancer.**
  Author(s): Krieger N, Strong EF, Makosky C, Weuve J.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2003 May; 12(5): 405-11.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12750234&dopt=Abstract

- **By the way, doctor. In your May issue you say that eating medium or well-done beef increases one's risk for stomach cancer. But what about the dangers of eating rare beef?**
  Author(s): Goldfinger SE.
  Source: Harvard Health Letter / from Harvard Medical School. 1999 March; 24(5): 7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10066305&dopt=Abstract

- **Cancer risks among iron and steel workers in Anshan, China, Part II: Case-control studies of lung and stomach cancer.**
  Author(s): Xu Z, Brown LM, Pan GW, Liu TF, Gao GS, Stone BJ, Cao RM, Guan DX, Sheng JH, Yan ZS, Dosemeci M, Fraumeni JF Jr, Blot WJ.
  Source: American Journal of Industrial Medicine. 1996 July; 30(1): 7-15.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8837676&dopt=Abstract

- **Cancer-stromal interaction through growth factor/cytokine networks implicated in growth of stomach cancer.**
  Author(s): Tahara E.
  Source: Princess Takamatsu Symp. 1994; 24: 187-94. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8983075&dopt=Abstract

- **Capsaicin can alter the expression of tumor forming-related genes which might be followed by induction of apoptosis of a Korean stomach cancer cell line, SNU-1.**
  Author(s): Kim JD, Kim JM, Pyo JO, Kim SY, Kim BS, Yu R, Han IS.
  Source: Cancer Letters. 1997 December 9; 120(2): 235-41.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9461043&dopt=Abstract

- **Carbohydrates and risk of stomach cancer in Uruguay.**
  Author(s): De Stefani E, Boffetta P, Deneo-Pellegrini H, Mendilaharsu M, Carzoglio JC, Ronco A.
  Source: International Journal of Cancer. Journal International Du Cancer. 1999 August 12; 82(4): 618-21.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10404081&dopt=Abstract

- **CDH1 c-160a promotor polymorphism is not associated with risk of stomach cancer.**
  Author(s): Pharoah PD, Oliveira C, Machado JC, Keller G, Vogelsang H, Laux H, Becker KF, Hahn H, Paproski SM, Brown LA, Caldas C, Huntsman D.
  Source: International Journal of Cancer. Journal International Du Cancer. 2002 September 10; 101(2): 196-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12209998&dopt=Abstract

- **Chemoprevention of stomach cancer.**
  Author(s): Buiatti E, Munoz N.
  Source: Iarc Sci Publ. 1996; (136): 35-9. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8791113&dopt=Abstract

- **Cigarette smoking, use of other tobacco products and stomach cancer mortality in US adults: The Cancer Prevention Study II.**
  Author(s): Chao A, Thun MJ, Henley SJ, Jacobs EJ, McCullough ML, Calle EE.
  Source: International Journal of Cancer. Journal International Du Cancer. 2002 October 1; 101(4): 380-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12209964&dopt=Abstract

- **Circumvention of 5-fluorouracil resistance in human stomach cancer cells by uracil phosphoribosyltransferase gene transduction.**
  Author(s): Inaba M, Sawada H, Sadata A, Hamada H.
  Source: Japanese Journal of Cancer Research : Gann. 1999 March; 90(3): 349-54.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10359051&dopt=Abstract

- **Clinicopathologic significance of the K-ras gene codon 12 point mutation in stomach cancer. An analysis of 140 cases.**
  Author(s): Lee KH, Lee JS, Suh C, Kim SW, Kim SB, Lee JH, Lee MS, Park MY, Sun HS, Kim SH.
  Source: Cancer. 1995 June 15; 75(12): 2794-801.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7773929&dopt=Abstract

- **Co-expression of N-cadherin and alpha-fetoprotein in stomach cancer.**
  Author(s): Yanagimoto K, Sato Y, Shimoyama Y, Tsuchiya B, Kuwao S, Kameya T.
  Source: Pathology International. 2001 August; 51(8): 612-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11564215&dopt=Abstract

- **Colon and stomach cancer mortality among automotive wood model makers.**
  Author(s): Demers RY.
  Source: J Occup Med. 1993 April; 35(4): 345-6, 349-50. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8487109&dopt=Abstract

- **Combination chemotherapy with epirubicin, cisplatin and 5-fluorouracil for the palliation of advanced gastric and oesophageal adenocarcinoma. The MRC Gastric Cancer Working Party and the British Stomach Cancer Group.**
  Author(s): Allum WH.
  Source: The British Journal of Surgery. 1995 April; 82(4): 565.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7542143&dopt=Abstract

- **Comparison of c-erbB-2 oncoprotein expression in tissue and serum of patients with stomach cancer.**
  Author(s): Chariyalertsak S, Sugano K, Ohkura H, Mori Y.
  Source: Tumour Biology : the Journal of the International Society for Oncodevelopmental Biology and Medicine. 1994; 15(5): 294-303.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7991990&dopt=Abstract

- **Comparison of stomach cancer incidence and survival in four continents.**
  Author(s): Verdecchia A, Mariotto A, Gatta G, Bustamante-Teixeira MT, Ajiki W.
  Source: European Journal of Cancer (Oxford, England : 1990). 2003 July; 39(11): 1603-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12855268&dopt=Abstract

- **Comparison of the molecular genetics of c-erb-B2 and p53 expression in stomach cancer in Britain and Japan.**
  Author(s): McCulloch PG, Ochiai A, O'Dowd GM, Nash JR, Sasako M, Hirohashi S.
  Source: Cancer. 1995 February 15; 75(4): 920-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7842412&dopt=Abstract

- **Concentration and distribution of tumor associated antigens TAG-72 and CEA in stomach cancer.**
  Author(s): Chung JK, Lee MC, Chung HK, Lim SM, Jang JJ, Koh CS.
  Source: Ann Nucl Med. 1995 February; 9(1): 7-13.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7779533&dopt=Abstract

- **Consumption of plant foods and stomach cancer mortality in the seven countries study. Is grain consumption a risk factor? Seven Countries Study Research Group.**
  Author(s): Jansen MC, Bueno-de-Mesquita HB, Rasanen L, Fidanza F, Menotti A, Nissinen A, Feskens EJ, Kok FJ, Kromhout D.
  Source: Nutrition and Cancer. 1999; 34(1): 49-55.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10453441&dopt=Abstract

- **Correlation of in vitro autofluorescence endoscopy images with histopathologic findings in stomach cancer.**
  Author(s): Abe S, Izuishi K, Tajiri H, Kinoshita T, Matsuoka T.
  Source: Endoscopy. 2000 April; 32(4): 281-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10774966&dopt=Abstract

- **Correspondence re: A. H. Wu et al., A meta-analysis of soyfoods and risk of stomach cancer: the problem of potential confounders. Cancer Epidemiol. Biomark. Prev., 9: 1051-1058, 2000.**
  Author(s): Ji BT, Chow WH, Yang G, Jin F, Gao YT, Fraumeni JF Jr.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2001 May; 10(5): 570-1.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11352874&dopt=Abstract

- **Cyclic patterns of incidence variations for stomach cancer in the North-Western region of England.**
  Author(s): Dimitrov BD.
  Source: Croatian Medical Journal. 2000 June; 41(2): 197-202.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10853052&dopt=Abstract

- **Detection of cancer cells in peripheral blood of stomach cancer patients using RT-PCR amplification of tumour-specific mRNAs.**
  Author(s): Shin JH, Chung J, Kim HO, Kim YH, Hur YM, Rhim JH, Chung HK, Park SC, Park JG, Yang HK.
  Source: Alimentary Pharmacology & Therapeutics. 2002 April; 16 Suppl 2: 137-44.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11966534&dopt=Abstract

- **Determinants of plasma anti-oxidant vitamin levels in a population at high risk for stomach cancer.**
  Author(s): Buiatti E, Munoz N, Kato I, Vivas J, Muggli R, Plummer M, Benz M, Franceschi S, Oliver W.
  Source: International Journal of Cancer. Journal International Du Cancer. 1996 January 26; 65(3): 317-22.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8575851&dopt=Abstract

- **Determinants of plasma pepsinogen levels in a population at high risk for stomach cancer in Venezuela.**
  Author(s): Kato I, Miki K, Munoz N, Vivas JH, Lopez G, Peraza S, Carillo E, Castro D, Andrade O, Sanchez V, et al.
  Source: International Journal of Cancer. Journal International Du Cancer. 1995 September 4; 62(5): 512-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7665219&dopt=Abstract

- **Development of a nursing diagnosis system using a back-propagation neural network model: an application for stomach cancer patients.**
  Author(s): Park HA, Lee EO, Song MS.
  Source: Medinfo. 1995; 8 Pt 2: 1399-403.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8591459&dopt=Abstract

- **Diet and stomach cancer in Korea.**
  Author(s): Ahn YO.
  Source: International Journal of Cancer. Journal International Du Cancer. 1997; Suppl 10: 7-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9209012&dopt=Abstract

- **Diet and stomach cancer: a case-control study in South India.**
  Author(s): Mathew A, Gangadharan P, Varghese C, Nair MK.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 2000 April; 9(2): 89-97.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10830575&dopt=Abstract

- **Diet/nutrition and stomach cancer in Japan.**
  Author(s): Hirohata T, Kono S.
  Source: International Journal of Cancer. Journal International Du Cancer. 1997; Suppl 10: 34-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9209018&dopt=Abstract

- **Dietary factors and stomach cancer mortality.**
  Author(s): Ngoan LT, Mizoue T, Fujino Y, Tokui N, Yoshimura T.
  Source: British Journal of Cancer. 2002 July 1; 87(1): 37-42.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12085253&dopt=Abstract

- **Dietary factors and stomach cancer: a case-control study in Korea.**
  Author(s): Lee JK, Park BJ, Yoo KY, Ahn YO.
  Source: International Journal of Epidemiology. 1995 February; 24(1): 33-41.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7797354&dopt=Abstract

- **Dietary habits and geographic variation in stomach cancer mortality in Spain.**
  Author(s): Corella D, Cortina P, Guillen M, Gonzalez JI.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 1996 August; 5(4): 249-57.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8894562&dopt=Abstract

- **Dietary habits and stomach cancer in Shanghai, China.**
  Author(s): Ji BT, Chow WH, Yang G, McLaughlin JK, Zheng W, Shu XO, Jin F, Gao RN, Gao YT, Fraumeni JF Jr.
  Source: International Journal of Cancer. Journal International Du Cancer. 1998 May 29; 76(5): 659-64.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9610722&dopt=Abstract

- **Dietary habits and the risk of stomach cancer: a comparison study of patients with and without intestinal metaplasia.**
  Author(s): Fay M, Fennerty MB, Emerson J, Larez M.
  Source: Gastroenterology Nursing : the Official Journal of the Society of Gastroenterology Nurses and Associates. 1994 February; 16(4): 158-62.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8110846&dopt=Abstract

- **Dietary patterns and stomach cancer among middle-aged male workers in Tokyo.**
  Author(s): Masaki M, Sugimori H, Nakamura K, Tadera M.
  Source: Asian Pac J Cancer Prev. 2003 January-March; 4(1): 61-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12718703&dopt=Abstract

- **Dietary protective and risk factors for esophageal and stomach cancers in a low-epidemic area for stomach cancer in Jiangsu Province, China: comparison with those in a high-epidemic area.**
  Author(s): Takezaki T, Gao CM, Wu JZ, Ding JH, Liu YT, Zhang Y, Li SP, Su P, Liu TK, Tajima K.
  Source: Japanese Journal of Cancer Research : Gann. 2001 November; 92(11): 1157-65.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11714439&dopt=Abstract

- **Dietary salt, nitrate and stomach cancer mortality in 24 countries. European Cancer Prevention (ECP) and the INTERSALT Cooperative Research Group.**
  Author(s): Joossens JV, Hill MJ, Elliott P, Stamler R, Lesaffre E, Dyer A, Nichols R, Kesteloot H.
  Source: International Journal of Epidemiology. 1996 June; 25(3): 494-504.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8671549&dopt=Abstract

- **Differential expression of nitric oxide synthase in human stomach cancer.**
  Author(s): Koh E, Noh SH, Lee YD, Lee HY, Han JW, Lee HW, Hong S.
  Source: Cancer Letters. 1999 November 15; 146(2): 173-80.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10656623&dopt=Abstract

- **Difficulty in eradicating Helicobacter pylori in a population at high risk for stomach cancer in Venezuela.**
  Author(s): Buiatti E, Munoz N, Vivas J, Cano E, Peraza S, Carillo E, Castro D, Sanchez V, Andrade O, Benz M, et al.
  Source: Cancer Causes & Control : Ccc. 1994 May; 5(3): 249-54.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8061173&dopt=Abstract

- **DNA flow cytometry of stomach cancer. Prospective correlation with clinicopathologic findings.**
  Author(s): Lee KH, Lee JS, Suh C, Ahn MJ, Kim SW, Doh BS, Min YI, Kim BS, Park KC, Lee IC, et al.
  Source: Cancer. 1993 September 15; 72(6): 1819-26.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8364860&dopt=Abstract

- **Double immunostaining for c-erbB-2 and p53 in human stomach cancer cells.**
  Author(s): Sasano H, Date F, Imatani A, Asaki S, Nagura H.
  Source: Human Pathology. 1993 June; 24(6): 584-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8099338&dopt=Abstract

- **Downregulation of stomach cancer-associated protein tyrosine phosphatase-1 (SAP-1) in advanced human hepatocellular carcinoma.**
  Author(s): Nagano H, Noguchi T, Inagaki K, Yoon S, Matozaki T, Itoh H, Kasuga M, Hayashi Y.
  Source: Oncogene. 2003 July 24; 22(30): 4656-63.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12879010&dopt=Abstract

- **Early gastric cancer: total gastrectomy vs. distal resection. Results of a study of 271 cases. The Italian Stomach Cancer Group (A.C.O.I.-I.S.C.G.).**
  Author(s): Santoro E, Garofalo A, Scutari F, Zanarini T, Carlini M, Santoro E Jr.
  Source: Hepatogastroenterology. 1991 October; 38(5): 427-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1765361&dopt=Abstract

- **Economic status and occupational correlates of stomach cancer in the rubber industry.**
  Author(s): Ke L, Shunzhang Y.
  Source: International Journal of Occupational Medicine and Environmental Health. 1999; 12(4): 345-52.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10703182&dopt=Abstract

- **Effect of suramin on differentiation of human stomach cancer cell lines.**
  Author(s): Choe G, Kim WH, Park JG, Kim YI.
  Source: Journal of Korean Medical Science. 1997 October; 12(5): 433-42.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9364302&dopt=Abstract

- **Electrogastrographic characteristics in patients of stomach cancer.**
  Author(s): Chang FY, Lu CL, Chen CY, Lee SD, Wu CW, Young ST, Wu HC, Kuo TS.
  Source: Digestive Diseases and Sciences. 2001 July; 46(7): 1458-65.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11478497&dopt=Abstract

- **Endobronchial metastasis from stomach cancer.**
  Author(s): Park YB, Byun YS, Kim SK, Yang DG, Chang J, Kim JH, Shin DH, Kim SK, Lee WY.
  Source: Respirology (Carlton, Vic.). 1999 March; 4(1): 89-92.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10339736&dopt=Abstract

- **Enhanced expression of cytochrome P450 in stomach cancer.**
  Author(s): Murray GI, Taylor MC, Burke MD, Melvin WT.
  Source: British Journal of Cancer. 1998 April; 77(7): 1040-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9569036&dopt=Abstract

- **Enhanced expression of stomach cancer antigen derived from malignantly transformed bloom syndrome cells previously labeled with bromodeoxyuridine.**
  Author(s): Shiraishi Y, Ogata T, Soma H.
  Source: Cancer Genetics and Cytogenetics. 1992 August; 62(1): 1-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1521223&dopt=Abstract

- **Epidemiologic characteristics and multiple risk factors of stomach cancer in Taiwan.**
  Author(s): Lee HH, Wu HY, Chuang YC, Chang AS, Chao HH, Chen KY, Chen HK, Lai GM, Huang HH, Chen CJ.
  Source: Anticancer Res. 1990 July-August; 10(4): 875-81.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2382983&dopt=Abstract

- **Epidemiologic panorama of stomach cancer mortality in Mexico.**
  Author(s): Tovar-Guzman V, Hernandez-Giron C, Barquera S, Rodriguez-Salgado N, Lopez-Carrillo L.
  Source: Archives of Medical Research. 2001 July-August; 32(4): 312-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11440790&dopt=Abstract

- **Epidemiological research in stomach cancer: progress over the last ten years.**
  Author(s): Boeing H.
  Source: Journal of Cancer Research and Clinical Oncology. 1991; 117(2): 133-43. Review. Erratum In: J Cancer Res Clin Oncol 1991; 117(3): 273.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2036128&dopt=Abstract

- **Epidural anaesthesia blocks changes in peripheral lymphocytes subpopulation during gastrectomy for stomach cancer.**
  Author(s): Hashimoto T, Hashimoto S, Hori Y, Nakagawa H, Hosokawa T.
  Source: Acta Anaesthesiologica Scandinavica. 1995 April; 39(3): 294-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7793203&dopt=Abstract

- **Estimation and projections of stomach cancer trends in Italy.**
  Author(s): Capocaccia R, De Angelis R, Frova L, Sant M, Buiatti E, Gatta G, Micheli A, Berrino F, Barchielli A, Conti E, et al.
  Source: Cancer Causes & Control : Ccc. 1995 July; 6(4): 339-46.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7548721&dopt=Abstract

- **Ethnic variation in the incidence of stomach cancer in Illinois, 1986-1988.**
  Author(s): Cho NH, Moy CS, Davis F, Haenszel W, Ahn YO, Kim H.
  Source: American Journal of Epidemiology. 1996 October 1; 144(7): 661-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8823062&dopt=Abstract

- **Evaluation of a mass screening program for stomach cancer with a case-control study design.**
  Author(s): Oshima A, Hirata N, Ubukata T, Umeda K, Fujimoto I.
  Source: International Journal of Cancer. Journal International Du Cancer. 1986 December 15; 38(6): 829-33.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3793262&dopt=Abstract

- **Evaluation of bone metastases by Tc-99m MDP imaging in patients with stomach cancer.**
  Author(s): Choi CW, Lee DS, Chung JK, Lee MC, Kim NK, Choi KW, Koh CS.
  Source: Clinical Nuclear Medicine. 1995 April; 20(4): 310-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7788986&dopt=Abstract

- **Exercise therapy effect on natural killer cell cytotoxic activity in stomach cancer patients after curative surgery.**
  Author(s): Na YM, Kim MY, Kim YK, Ha YR, Yoon DS.
  Source: Archives of Physical Medicine and Rehabilitation. 2000 June; 81(6): 777-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10857523&dopt=Abstract

- **Expression of eosinophil chemotactic factors in stomach cancer.**
  Author(s): Hong SW, Cho MY, Park C.
  Source: Yonsei Medical Journal. 1999 April; 40(2): 131-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10333716&dopt=Abstract

- **Expression of Fas ligand by human gastric adenocarcinomas: a potential mechanism of immune escape in stomach cancer.**
  Author(s): Bennett MW, O'connell J, O'sullivan GC, Roche D, Brady C, Kelly J, Collins JK, Shanahan F.
  Source: Gut. 1999 February; 44(2): 156-62.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9895372&dopt=Abstract

- **Extended resection of locally advanced (T4) stomach cancer.**
  Author(s): Yong WS, Wong WK, Chan HS, Soo KC.
  Source: Ann Acad Med Singapore. 2000 November; 29(6): 723-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11269977&dopt=Abstract

- **Extrapelvic and extraperitoneal spread of recurrent stomach cancer: two case reports.**
  Author(s): Shin HJ, Cho OK, Rhim H, Koh BH, Kim Y, Seo HS.
  Source: Journal of Computer Assisted Tomography. 2003 March-April; 27(2): 158-61.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12703005&dopt=Abstract

- **Factors related to and consequences of weight loss in patients with stomach cancer. The Norwegian Multicenter experience. Norwegian Stomach Cancer Trial.**
  Author(s): Haugstvedt TK, Viste A, Eide GE, Soreide O.
  Source: Cancer. 1991 February 1; 67(3): 722-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1985765&dopt=Abstract

- **Factors related to the incidence of stomach cancer in the Pittsburgh Standard Metropolitan Statistical Area.**
  Author(s): Lerer TJ, Redmond CK, Campbell J.
  Source: Journal of the National Cancer Institute. 1977 October; 59(4): 1065-71. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=333121&dopt=Abstract

- **Familial aggregation and covariation of diseases in a Japanese rural community: comparison of stomach cancer with other diseases.**
  Author(s): Toyoshima H, Hayashi S, Hashimoto S, Seki N, Tanabe N, Miyanishi K, Kondo T, Fujiwara M, Aoki K.
  Source: Annals of Epidemiology. 1997 October; 7(7): 446-51.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9349911&dopt=Abstract

- **Familial stomach cancer.**
  Author(s): Triantafillidis JK, Kosmidis P, Kottaridis S.
  Source: The American Journal of Gastroenterology. 1993 October; 88(10): 1789-90.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8213728&dopt=Abstract

- **Family history and risk of stomach cancer in Italy.**
  Author(s): Palli D, Galli M, Caporaso NE, Cipriani F, Decarli A, Saieva C, Fraumeni JF Jr, Buiatti E.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 1994 January-February; 3(1): 15-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8118379&dopt=Abstract

- **Family history and risk of stomach cancer in Warsaw, Poland.**
  Author(s): Lissowska J, Groves FD, Sobin LH, Fraumeni JF Jr, Nasierowska-Guttmejer A, Radziszewski J, Regula J, Hsing AW, Zatonski W, Blot WJ, Chow WH.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 1999 July; 8(3): 223-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10443951&dopt=Abstract

- **Family history and the risk of stomach cancer death in Japan: differences by age and gender.**
  Author(s): Yatsuya H, Toyoshima H, Mizoue T, Kondo T, Tamakoshi K, Hori Y, Tokui N, Hoshiyama Y, Kikuchi S, Sakata K, Hayakawa N, Tamakoshi A, Ohno Y, Yoshimura T.
  Source: International Journal of Cancer. Journal International Du Cancer. 2002 February 10; 97(5): 688-94.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11807799&dopt=Abstract

- **Fatty acid patterns in gastric mucosa of stomach cancer patients.**
  Author(s): Ahn J, Park IS, Lee KS, Kim SY, Chung EJ, Kim J, Kim DJ, Yoon S, Lee-Kim YC.
  Source: Yonsei Medical Journal. 2001 April; 42(2): 220-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11371111&dopt=Abstract

- **Flow cytometric analysis of the expression of 9A3 antigen, E-cadherin and EGF receptor in TMK-1 stomach cancer cells.**
  Author(s): Fukuyama R, Minoshima S, Ochiai A, Tahara E, Shimizu N.
  Source: International Journal of Cancer. Journal International Du Cancer. 1991 April 22; 48(1): 81-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2019460&dopt=Abstract

- **Follow-up study on the cause of death after surgery for gastric and duodenal ulcers with special reference to the incidence of residual stomach cancer.**
  Author(s): Koga S, Nishidoi H, Kaibara N, Tamura H, Yurugi E, Kimura O, Okamoto T, Takebayashi M.
  Source: Zentralblatt Fur Chirurgie. 1984; 109(12): 791-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6475354&dopt=Abstract

- **Frequency of non-secretor types among stomach cancer patients.**
  Author(s): Csato E, Vass J.
  Source: Haematologia. 1986; 19(2): 147-50.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3758839&dopt=Abstract

- **Frequent amplification of the c-met gene in scirrhous type stomach cancer.**
  Author(s): Kuniyasu H, Yasui W, Kitadai Y, Yokozaki H, Ito H, Tahara E.
  Source: Biochemical and Biophysical Research Communications. 1992 November 30; 189(1): 227-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1333188&dopt=Abstract

- **Frequent expression of soluble Fas and Fas ligand in Chinese stomach cancer and its preneoplastic lesions.**
  Author(s): Li H, Liu N, Guo L, Li JW, Liu J.
  Source: International Journal of Molecular Medicine. 2000 May; 5(5): 473-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10762649&dopt=Abstract

- **Garlic consumption and cancer prevention: meta-analyses of colorectal and stomach cancers.**
  Author(s): Fleischauer AT, Poole C, Arab L.
  Source: The American Journal of Clinical Nutrition. 2000 October; 72(4): 1047-52.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11010950&dopt=Abstract

- **Gastric juice enzymes and stomach cancer.**
  Author(s): Rogers K, Williams GT.
  Source: Lancet. 1981 October 31; 2(8253): 984.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6117746&dopt=Abstract

- **Genetic and epigenetic changes in stomach cancer.**
  Author(s): Yokozaki H, Yasui W, Tahara E.
  Source: Int Rev Cytol. 2001; 204: 49-95. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11243597&dopt=Abstract

- **Geographic pathology on the precursors of stomach cancer.**
  Author(s): Yang GY, Zhang YC, Liu XD, Wu YQ, Li MS, Gong CY, Guan BW, Mi DH, Liu S.
  Source: Journal of Environmental Pathology, Toxicology and Oncology : Official Organ of the International Society for Environmental Toxicology and Cancer. 1992 September-October; 11(5-6): 339-44.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1464819&dopt=Abstract

- **Geographical distribution of stomach cancer in Czechoslovakia.**
  Author(s): Gregor O, Toman R, Prusova F, Drnkova V, Pastorova J.
  Source: Gut. 1969 February; 10(2): 150-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=5766045&dopt=Abstract

- **Geographical variations in mortality from cancer in Iceland, with particular reference to stomach cancer.**
  Author(s): Sigurjonsson J.
  Source: Journal of the National Cancer Institute. 1966 September; 37(3): 337-46.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=5923903&dopt=Abstract

- **Geography of stomach cancer in Belgium: an approach.**
  Author(s): Verhasselt Y.
  Source: Geogr Med. 1981; 11: 104-15. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7333463&dopt=Abstract

- **Glutathione S-transferase genotypes and stomach cancer in a population-based case-control study in Warsaw, Poland.**
  Author(s): Lan Q, Chow WH, Lissowska J, Hein DW, Buetow K, Engel LS, Ji B, Zatonski W, Rothman N.
  Source: Pharmacogenetics. 2001 November; 11(8): 655-61.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11692073&dopt=Abstract

- **Green-tea consumption and risk of stomach cancer: a population-based case-control study in Shanghai, China.**
  Author(s): Yu GP, Hsieh CC, Wang LY, Yu SZ, Li XL, Jin TH.
  Source: Cancer Causes & Control : Ccc. 1995 November; 6(6): 532-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8580302&dopt=Abstract

- **Gross and microscopic characteristics of stomach cancer with microangiopathic hemolytic anemia and/or disseminated intravascular coagulopathy.**
  Author(s): Morimatsu M, Shirouzu K, Irie K, Tokunaga O, Sasaguri Y.
  Source: Acta Pathol Jpn. 1985 July; 35(4): 809-22.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4072674&dopt=Abstract

- **Growth patterns of stomach cancer in relation to biological characteristics.**
  Author(s): Suk D, Joo JE.
  Source: Yonsei Medical Journal. 1986; 27(4): 292-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3031886&dopt=Abstract

- **Health beliefs and health behaviours in subpopulation of stomach cancer families and in the control group.**
  Author(s): Tobiasz-Adamczyk B.
  Source: Cancer Letters. 1997 March 19; 114(1-2): 301-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9103316&dopt=Abstract

- **Helicobacter pylori and stomach cancer: a case-control study in Venezuela.**
  Author(s): Plummer M, Vivas J, Fauchere JL, Del Giudice G, Pena AS, Ponzetto A, Lopez G, Miki K, Oliver W, Munoz N.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2000 September; 9(9): 961-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11008915&dopt=Abstract

- **Helicobacter pylori infection among offspring of patients with stomach cancer.**
  Author(s): Brenner H, Bode G, Boeing H.
  Source: Gastroenterology. 2000 January; 118(1): 31-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10611151&dopt=Abstract

- **Helicobacter pylori infection and mode of transmission in a population at high risk of stomach cancer.**
  Author(s): Ma JL, You WC, Gail MH, Zhang L, Blot WJ, Chang YS, Jiang J, Liu WD, Hu YR, Brown LM, Xu GW, Fraumeni JF Jr.
  Source: International Journal of Epidemiology. 1998 August; 27(4): 570-3.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9758108&dopt=Abstract

- **Helicobacter pylori infection on the risk of stomach cancer and chronic atrophic gastritis.**
  Author(s): Zhang ZF, Kurtz RC, Klimstra DS, Yu GP, Sun M, Harlap S, Marshall JR.
  Source: Cancer Detection and Prevention. 1999; 23(5): 357-67.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10468887&dopt=Abstract

- **Helicobacter pylori: has the killer escaped from the institution? A possible cause of increased stomach cancer in a population with intellectual disability.**
  Author(s): Duff M, Scheepers M, Cooper M, Hoghton M, Baddeley P.
  Source: Journal of Intellectual Disability Research : Jidr. 2001 June; 45(Pt 3): 219-25.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11422646&dopt=Abstract

- **Heterogeneous responses of an in vitro model of human stomach cancer to anticancer drugs.**
  Author(s): Barranco SC, Townsend CM Jr, Quraishi MA, Burger NL, Nevill HC, Howell KH, Boerwinkle WR.
  Source: Investigational New Drugs. 1983; 1(2): 117-27.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6678861&dopt=Abstract

- **High incidence of stomach cancer in relatives of patients with malignant lymphoproliferative disorders.**
  Author(s): Gencik A, Buser M, Temminck B, Obrecht JP, Weber W, Muller H.
  Source: Cancer Detect Prev Suppl. 1987; 1: 121-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3155377&dopt=Abstract

- **High thoracic midline dorsal column myelotomy for severe visceral pain due to advanced stomach cancer.**
  Author(s): Kim YS, Kwon SJ.
  Source: Neurosurgery. 2000 January; 46(1): 85-90; Discussion 90-2.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10626939&dopt=Abstract

- **Histological evaluation of the effect of 5-FU emulsion on lymph node metastasis of stomach cancer.**
  Author(s): Majima S, Watanabe S, Nakao E, Ueda T, Morisawa K, Cho K, Nishioka B, Fujita Y, Takahashi T.
  Source: Jpn J Surg. 1978 June; 8(2): 111-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=682390&dopt=Abstract

- **HLA antigens in stomach cancer.**
  Author(s): Nomura A, Glober GA, Terasaki PI, Stemmermann GN.
  Source: International Journal of Cancer. Journal International Du Cancer. 1980 February 15; 25(2): 195-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7390648&dopt=Abstract

- **hOGG1 Ser(326)Cys polymorphism and modification by environmental factors of stomach cancer risk in Chinese.**
  Author(s): Takezaki T, Gao CM, Wu JZ, Li ZY, Wang JD, Ding JH, Liu YT, Hu X, Xu TL, Tajima K, Sugimura H.
  Source: International Journal of Cancer. Journal International Du Cancer. 2002 June 1; 99(4): 624-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11992556&dopt=Abstract

- **Hormonal therapy for stomach cancer.**
  Author(s): Wu CW, Lui WY, P'eng FK, Chi CW.
  Source: Medical Hypotheses. 1992 October; 39(2): 137-9. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1461175&dopt=Abstract

- **Human monoclonal antibodies from stomach carcinoma patients react with Helicobacter pylori and stimulate stomach cancer cells in vitro.**
  Author(s): Vollmers HP, Dammrich J, Ribbert H, Grassel S, Debus S, Heesemannn J, Muller-Hermelink HK.
  Source: Cancer. 1994 September 1; 74(5): 1525-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8062186&dopt=Abstract

- **Human monoclonal antibody reactive to stomach cancer produced by mouse-human hybridoma technique.**
  Author(s): Yoshikawa K, Ueda R, Obata Y, Utsumi KR, Notake K, Takahashi T.
  Source: Japanese Journal of Cancer Research : Gann. 1986 November; 77(11): 1122-33.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3098722&dopt=Abstract

- **Hypertension, cerebrovascular disease and stomach cancer: is the salt hypothesis true?**
  Author(s): Whelton PK, Goldblatt P.
  Source: Clinical Science (London, England : 1979). 1981 December; 61 Suppl 7: 369S-371S.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7318339&dopt=Abstract

- **Identification of novel genes from stomach cancer cell lines by differential display.**
  Author(s): Salesiotis AN, Wang CK, Wang CD, Burger A, Li H, Seth A.
  Source: Cancer Letters. 1995 May 4; 91(1): 47-54.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7750094&dopt=Abstract

- **Immunochemical fecal occult blood test is inadequate for screening test of stomach cancer.**
  Author(s): Nakama H, Zhang B.
  Source: Digestive Diseases and Sciences. 2000 November; 45(11): 2195-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11215738&dopt=Abstract

- **Immunogenetic characteristics of patients with stomach cancer and predominant activity of either sympathetic or parasympathetic autonomic nervous system.**
  Author(s): Abramov VV, Konenkov VI, Egorov DN, Korotkova IYu, Solov'eva IG, Vardosanidze KV, Kozlov VA.
  Source: Doklady Biological Sciences : Proceedings of the Academy of Sciences of the Ussr, Biological Sciences Sections / Translated from Russian. 2000 July-August; 373(1-6): 415-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11013848&dopt=Abstract

- **Immunohistochemical analysis of Omi/HtrA2 expression in stomach cancer.**
  Author(s): Lee SH, Lee JW, Kim HS, Kim SY, Park WS, Kim SH, Lee JY, Yoo NJ.
  Source: Apmis : Acta Pathologica, Microbiologica, Et Immunologica Scandinavica. 2003 May; 111(5): 586-90.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12887511&dopt=Abstract

- **Immunohistochemical detection of K-sam protein in stomach cancer.**
  Author(s): Hattori Y, Itoh H, Uchino S, Hosokawa K, Ochiai A, Ino Y, Ishii H, Sakamoto H, Yamaguchi N, Yanagihara K, Hirohashi S, Sugimura T, Terada M.
  Source: Clinical Cancer Research : an Official Journal of the American Association for Cancer Research. 1996 August; 2(8): 1373-81.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9816310&dopt=Abstract

- **Immunoreactivity of CD99 in stomach cancer.**
  Author(s): Jung KC, Park WS, Bae YM, Hahn JH, Hahn K, Lee H, Lee HW, Koo HJ, Shin HJ, Shin HS, Park YE, Park SH.
  Source: Journal of Korean Medical Science. 2002 August; 17(4): 483-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12172043&dopt=Abstract

- **Immunosuppressive cells in bone marrow of patients with stomach cancer.**
  Author(s): Kusmartsev SA, Kusmartseva IN, Afanasyev SG, Cherdyntseva NV.
  Source: Advances in Experimental Medicine and Biology. 1998; 451: 189-94.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10026871&dopt=Abstract

- **Incidence and mortality from stomach cancer in Japan, Slovenia and the USA.**
  Author(s): Lambert R, Guilloux A, Oshima A, Pompe-Kirn V, Bray F, Parkin M, Ajiki W, Tsukuma H.
  Source: International Journal of Cancer. Journal International Du Cancer. 2002 February 20; 97(6): 811-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11857360&dopt=Abstract

- **Incidence, mortality and prevalence of stomach cancer in Italian regions.**
  Author(s): De Angelis R, Valente F, Frova L, Capocaccia R, Micheli A, Chessa E, Sant M.
  Source: Tumori. 1996 July-August; 82(4): 314-20. Erratum In: Tumori 1996 September-October; 82(5): 509.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8890962&dopt=Abstract

- **Increased expression of annexin I and thioredoxin detected by two-dimensional gel electrophoresis of drug resistant human stomach cancer cells.**
  Author(s): Sinha P, Hutter G, Kottgen E, Dietel M, Schadendorf D, Lage H.
  Source: Journal of Biochemical and Biophysical Methods. 1998 November 18; 37(3): 105-16.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9870185&dopt=Abstract

- **Increased expression of FLIP, an inhibitor of Fas-mediated apoptosis, in stomach cancer.**
  Author(s): Lee SH, Kim HS, Kim SY, Lee YS, Park WS, Kim SH, Lee JY, Yoo NJ.
  Source: Apmis : Acta Pathologica, Microbiologica, Et Immunologica Scandinavica. 2003 February; 111(2): 309-14.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12716387&dopt=Abstract

- **Induction of apoptosis by Acanthopanax senticosus HARMS and its component, sesamin in human stomach cancer KATO III cells.**
  Author(s): Hibasami H, Fujikawa T, Takeda H, Nishibe S, Satoh T, Fujisawa T, Nakashima K.
  Source: Oncol Rep. 2000 November-December; 7(6): 1213-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11032916&dopt=Abstract

- **Induction of apoptosis by gallic acid in human stomach cancer KATO III and colon adenocarcinoma COLO 205 cell lines.**
  Author(s): Yoshioka K, Kataoka T, Hayashi T, Hasegawa M, Ishi Y, Hibasami H.
  Source: Oncol Rep. 2000 November-December; 7(6): 1221-3.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11032918&dopt=Abstract

- **Induction of apoptosis in human stomach cancer cells by green tea catechins.**
  Author(s): Hibasami H, Komiya T, Achiwa Y, Ohnishi K, Kojima T, Nakanishi K, Akashi K, Hara Y.
  Source: Oncol Rep. 1998 March-April; 5(2): 527-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9468594&dopt=Abstract

- **Infant mortality, stomach cancer, stroke, and coronary heart disease: ecological analysis.**
  Author(s): Leon DA, Davey Smith G.
  Source: Bmj (Clinical Research Ed.). 2000 June 24; 320(7251): 1705-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10864546&dopt=Abstract

- **Inhibition of inducible NF-kappaB activity reduces chemoresistance to 5-fluorouracil in human stomach cancer cell line.**
  Author(s): Uetsuka H, Haisa M, Kimura M, Gunduz M, Kaneda Y, Ohkawa T, Takaoka M, Murata T, Nobuhisa T, Yamatsuji T, Matsuoka J, Tanaka N, Naomoto Y.
  Source: Experimental Cell Research. 2003 September 10; 289(1): 27-35.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12941601&dopt=Abstract

- **Intake of butylated hydroxyanisole and butylated hydroxytoluene and stomach cancer risk: results from analyses in the Netherlands Cohort Study.**
  Author(s): Botterweck AA, Verhagen H, Goldbohm RA, Kleinjans J, van den Brandt PA.
  Source: Food and Chemical Toxicology : an International Journal Published for the British Industrial Biological Research Association. 2000 July; 38(7): 599-605.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10942321&dopt=Abstract

- **Intensify standardized therapy for esophageal and stomach cancer in tumor hospitals.**
  Author(s): Wang SJ, Wen DG, Zhang J, Man X, Liu H.
  Source: World Journal of Gastroenterology : Wjg. 2001 February; 7(1): 80-2.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11819737&dopt=Abstract

- **International debate over stomach cancer diagnoses nearing resolution.**
  Author(s): Saphir A.
  Source: Journal of the National Cancer Institute. 1998 November 4; 90(21): 1590-1.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9811304&dopt=Abstract

- **Isolated bladder metastases from stomach cancer: CT demonstration.**
  Author(s): Kim HC, Kim SH, Hwang SI, Lee HJ, Han JK.
  Source: Abdominal Imaging. 2001 May-June; 26(3): 333-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11429966&dopt=Abstract

- **K-sam, an amplified gene in stomach cancer, is a member of the heparin-binding growth factor receptor genes.**
  Author(s): Hattori Y, Odagiri H, Nakatani H, Miyagawa K, Naito K, Sakamoto H, Katoh O, Yoshida T, Sugimura T, Terada M.
  Source: Proceedings of the National Academy of Sciences of the United States of America. 1990 August; 87(15): 5983-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2377625&dopt=Abstract

- **Lack of relationship between pernicious anemia and stomach cancer.**
  Author(s): Hoffman NR.
  Source: Minn Med. 1984 December; 67(12): 691-2. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6513914&dopt=Abstract

- **Lactate dehydrogenase in gastric juice: diagnostic adjunct in human stomach cancer.**
  Author(s): Faulk WP, Rider JA, Swader JI.
  Source: Lancet. 1972 November 25; 2(7787): 1115-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4117205&dopt=Abstract

- **Lewis antigen alterations in a population at high risk of stomach cancer.**
  Author(s): Torrado J, Plummer M, Vivas J, Garay J, Lopez G, Peraza S, Carillo E, Oliver W, Munoz N.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2000 July; 9(7): 671-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10919736&dopt=Abstract

- **Lifestyle and risk of stomach cancer: a hospital-based case-control study.**
  Author(s): Gajalakshmi CK, Shanta V.
  Source: International Journal of Epidemiology. 1996 December; 25(6): 1146-53.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9027518&dopt=Abstract

- **Lifestyle factors and stomach cancer.**
  Author(s): Krishnamurthy S.
  Source: International Journal of Epidemiology. 1998 February; 27(1): 153.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9563710&dopt=Abstract

- **Life-style, workplace, and stomach cancer by subsite in young men of Los Angeles County.**
  Author(s): Wu-Williams AH, Yu MC, Mack TM.
  Source: Cancer Research. 1990 May 1; 50(9): 2569-76.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2328485&dopt=Abstract

- **Longitudinal gompertzian analysis of mortality from stomach cancer in Japan, 1950-1993.**
  Author(s): Imaizumi Y.
  Source: Mechanisms of Ageing and Development. 1995 November 24; 85(2-3): 133-45.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8786660&dopt=Abstract

- **Longitudinal Gompertzian analysis of stomach cancer mortality in the U.S., 1962-1987: a thermodynamic analogy of its declining mortality.**
  Author(s): Riggs JE.
  Source: Mechanisms of Ageing and Development. 1991 June 28; 59(3): 215-28.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1921513&dopt=Abstract

- **Long-term trend of haemoglobin decrease in stomach cancer.**
  Author(s): Nakamura T, Mori H, Mine M, Kondo H, Okajima S, Morikawa A, Toyoda S.
  Source: Med Inform (Lond). 1982 January-March; 7(1): 29-38. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7109777&dopt=Abstract

- **Lung cancer, stomach cancer, and smoking status among coal miners. A preliminary test of a hypothesis.**
  Author(s): Ames RG, Gamble JF.
  Source: Scand J Work Environ Health. 1983 October; 9(5): 443-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6673101&dopt=Abstract

- **Lymph node dissection in surgical treatment for remnant stomach cancer.**
  Author(s): Kunisaki C, Shimada H, Nomura M, Hosaka N, Akiyama H, Ookubo K, Moriwaki Y, Yamaoka H.
  Source: Hepatogastroenterology. 2002 March-April; 49(44): 580-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11995502&dopt=Abstract

- **Lymph node staging in 872 patients with carcinoma of the stomach and the presumed benefit of lymphadenectomy. German Stomach Cancer TNM Study Group.**
  Author(s): Keller E, Stutzer H, Heitmann K, Bauer P, Gebbensleben B, Rohde H.
  Source: Journal of the American College of Surgeons. 1994 January; 178(1): 38-46.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8156115&dopt=Abstract

- **Magnesium in stomach cancer.**
  Author(s): Pasternak K, Przyszlak W.
  Source: Magnes Res. 1999 June; 12(2): 139-43.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10423709&dopt=Abstract

- **Measurement of urinary trypsin inhibitor in urine, plasma and cancer tissues of patients with stomach cancer.**
  Author(s): Nishino N, Aoki K, Tokura Y, Sakaguchi S, Fujie M, Sugawara Y, Takada Y, Takada A.
  Source: Haemostasis. 1989; 19(2): 112-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2471673&dopt=Abstract

- **Meat consumption and risk of stomach cancer in Uruguay: a case-control study.**
  Author(s): De Stefani E, Ronco A, Brennan P, Boffetta P.
  Source: Nutrition and Cancer. 2001; 40(2): 103-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11962244&dopt=Abstract

- **Mechanistic aspects of green tea as a cancer preventive: effect of components on human stomach cancer cell lines.**
  Author(s): Okabe S, Ochiai Y, Aida M, Park K, Kim SJ, Nomura T, Suganuma M, Fujiki H.
  Source: Japanese Journal of Cancer Research : Gann. 1999 July; 90(7): 733-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10470285&dopt=Abstract

- **Meta-analysis of the risk of gastric stump cancer: detection of high risk patient subsets for stomach cancer after remote partial gastrectomy for benign conditions.**
  Author(s): Tersmette AC, Offerhaus GJ, Tersmette KW, Giardiello FM, Moore GW, Tytgat GN, Vandenbroucke JP.
  Source: Cancer Research. 1990 October 15; 50(20): 6486-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2145061&dopt=Abstract

- **Metal polishing, stomach cancer, and clearing houses.**
  Author(s): Mant D, Mayon-White R.
  Source: Br J Ind Med. 1987 June; 44(6): 429. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3606976&dopt=Abstract

- **Metastatic gastric lymph node rate is a significant prognostic factor for resectable stage IV stomach cancer.**
  Author(s): Kodera Y, Yamamura Y, Shimizu Y, Torii A, Hirai T, Yasui K, Morimoto T, Kato T, Kito T.
  Source: Journal of the American College of Surgeons. 1997 July; 185(1): 65-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9208963&dopt=Abstract

- **Methylation and expression of human pepsinogen genes in normal tissues and their alteration in stomach cancer.**
  Author(s): Ichinose M, Miki K, Wong RN, Tatematsu M, Furihata C, Konishi T, Matsushima M, Tanji M, Sano J, Kurokawa K, et al.
  Source: Japanese Journal of Cancer Research : Gann. 1991 June; 82(6): 686-92.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1906854&dopt=Abstract

- **Modification of adriamycin-induced cytotoxicity by recombinant human interferon-gamma and/or verapamil in human stomach cancer cells.**
  Author(s): Hong WS, Kim CM, Lee CT, Lee JO, Kang TW.
  Source: Journal of Korean Medical Science. 1992 September; 7(3): 236-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1285922&dopt=Abstract

- **Molecular aspects of invasion and metastasis of stomach cancer.**
  Author(s): Tahara E.
  Source: Verh Dtsch Ges Pathol. 2000; 84: 43-9. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11217448&dopt=Abstract

- **Molecular cloning of an activated human oncogene, homologous to v-raf, from primary stomach cancer.**
  Author(s): Shimizu K, Nakatsu Y, Sekiguchi M, Hokamura K, Tanaka K, Terada M, Sugimura T.
  Source: Proceedings of the National Academy of Sciences of the United States of America. 1985 September; 82(17): 5641-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3862088&dopt=Abstract

- **Monitoring immunocompetent cells in the peripheral blood of stomach cancer patients after splenectomy and gastrectomy.**
  Author(s): Lersch C, Schreiner J, Demmel N, Hammer C, von Finckenstein J, Koller J, Dirschedl P, Krombach F, Gunther B, Brendel W.
  Source: Journal of Cancer Research and Clinical Oncology. 1985; 110(3): 225-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3841127&dopt=Abstract

- **Mortality caused by stomach cancer after remote partial gastrectomy for benign conditions: 40 years of follow up of an Amsterdam cohort of 2633 postgastrectomy patients.**
  Author(s): Offerhaus GJ, Tersmette AC, Huibregtse K, van de Stadt J, Tersmette KW, Stijnen T, Hoedemaeker PJ, Vandenbroucke JP, Tytgat GN.
  Source: Gut. 1988 November; 29(11): 1588-90.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3209117&dopt=Abstract

- **Mortality from asthma, chronic obstructive pulmonary disease, respiratory system cancer, and stomach cancer among paper mill workers: a case-referent study.**
  Author(s): Toren K, Sallsten G, Jarvholm B.
  Source: American Journal of Industrial Medicine. 1991; 19(6): 729-37.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1882851&dopt=Abstract

- **Mortality from stomach cancer in Ontario miners.**
  Author(s): Kusiak RA, Ritchie AC, Springer J, Muller J.
  Source: Br J Ind Med. 1993 February; 50(2): 117-26.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8435344&dopt=Abstract

- **Mortality from stomach cancer in United States cement plant and quarry workers, 1950-80.**
  Author(s): Amandus HE.
  Source: Br J Ind Med. 1986 August; 43(8): 526-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3637114&dopt=Abstract

- **Mortality trend of stomach cancer in Japan: 1960-2000.**
  Author(s): Kaneko S, Yoshimi I.
  Source: Japanese Journal of Clinical Oncology. 2003 February; 33(2): 105-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12675035&dopt=Abstract

- **Mortality trends for stomach cancer in England and Wales.**
  Author(s): Davies JM.
  Source: British Journal of Cancer. 1981 December; 44(6): 879-85.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7326197&dopt=Abstract

- **Multivariate analysis of the risk of stomach cancer after ulcer surgery in an Amsterdam cohort of postgastrectomy patients.**
  Author(s): Tersmette AC, Goodman SN, Offerhaus GJ, Tersmette KW, Giardiello FM, Vandenbroucke JP, Tytgat GN.
  Source: American Journal of Epidemiology. 1991 July 1; 134(1): 14-21.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1853856&dopt=Abstract

- **Mutagenic activity of nitrosated foods in an area with a high risk for stomach cancer.**
  Author(s): Montes G, Cuello C, Correa P, Haenszel W, Zarama G, Gordillo G.
  Source: Nutrition and Cancer. 1984; 6(3): 171-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6545575&dopt=Abstract

- **Natural killer and lymphokine-activated killer activities in stomach cancer patients with special emphasis on the effect of 5-fluorouracil, adriamycin and mitomycin-C chemotherapy.**
  Author(s): Hong WS, Kim CM, Lee JO, Kang TW, Yun TK, Kim CY.
  Source: Japanese Journal of Clinical Oncology. 1990 March; 20(1): 87-93.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2108272&dopt=Abstract

- **Neoadjuvant and adjuvant chemotherapy of locally advanced stomach cancer.**
  Author(s): Morant R.
  Source: Onkologie. 2001 April; 24(2): 116-21. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11441289&dopt=Abstract

- **Nitrate fertilizers as environmental pollutants: positive correlation between nitrates (NaNO3 and KNO3) used per unit area and stomach cancer mortality rates.**
  Author(s): Zaldivar R.
  Source: Experientia. 1977 February 15; 33(2): 264-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=844585&dopt=Abstract

- **Nitrate in drinking water and cancer in northern Jutland, Denmark, with special reference to stomach cancer.**
  Author(s): Jensen OM.
  Source: Ecotoxicology and Environmental Safety. 1982 June; 6(3): 258-67.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7106030&dopt=Abstract

- **Nitrate nitrogen levels in drinking water of urban areas with high- and low-risk populations for stomach cancer: an environmental epidemiology study.**
  Author(s): Zaldivar R, Wetterstrand WH.
  Source: Z Krebsforsch Klin Onkol Cancer Res Clin Oncol. 1978 October 30; 92(3): 227-34.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=153065&dopt=Abstract

- **Nitrate-reducing microorganisms in the gastric juice of patients with stomach cancer--experimental data and considerations upon the role of these microorganisms in gastrocarcinogenesis.**
  Author(s): Uibu J.
  Source: Die Nahrung. 1987; 31(5-6): 533-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3657931&dopt=Abstract

- **Nitrosoureas suspected in stomach cancer.**
  Author(s): Gunby P.
  Source: Jama : the Journal of the American Medical Association. 1981 May 1; 245(17): 1714.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7218477&dopt=Abstract

- **No apparent association between NAT1 and NAT2 genotypes and risk of stomach cancer.**
  Author(s): Lan Q, Rothman N, Chow WH, Lissowska J, Doll MA, Xiao GH, Zatonski W, Hein DW.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2003 April; 12(4): 384-6. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12692115&dopt=Abstract

- **Norwegian multicentre study of survival and prognostic factors in patients undergoing curative resection for gastric carcinoma. The Norwegian Stomach Cancer Trial.**
  Author(s): Haugstvedt TK, Viste A, Eide GE, Soreide O.
  Source: The British Journal of Surgery. 1993 April; 80(4): 475-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8495315&dopt=Abstract

- **Nuclear overexpression of bcl-2 oncoprotein during the progression of human stomach cancer.**
  Author(s): Lee SS, Cho KJ, Hong SI, Myoung NK, Jang JJ.
  Source: Journal of Korean Medical Science. 1998 April; 13(2): 153-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9610615&dopt=Abstract

- **Nude mouse metastatic models of human stomach cancer constructed using orthotopic implantation of histologically intact tissue.**
  Author(s): Furukawa T, Fu X, Kubota T, Watanabe M, Kitajima M, Hoffman RM.
  Source: Cancer Research. 1993 March 1; 53(5): 1204-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8439965&dopt=Abstract

- **Nursing care study: stomach cancer.**
  Author(s): de Lacey M.
  Source: N Z Nurs J. 1978 June; 71(6): 7-8. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=209374&dopt=Abstract

- **Nutrition and stomach cancer.**
  Author(s): Kono S, Hirohata T.
  Source: Cancer Causes & Control : Ccc. 1996 January; 7(1): 41-55. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8850434&dopt=Abstract

- **O-acetyl sialomucin and differentiation of stomach cancer: a histochemical study.**
  Author(s): Huang CB, Xu JA, Wu KR, Wang WM.
  Source: Anticancer Res. 1988 July-August; 8(4): 829-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3178173&dopt=Abstract

- **Occupation and stomach cancer in a cohort of Swedish men.**
  Author(s): Chow WH, McLaughlin JK, Malker HS, Weiner JA, Ericsson JL, Stone BJ, Blot WJ.
  Source: American Journal of Industrial Medicine. 1994 October; 26(4): 511-20.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7810549&dopt=Abstract

- **Oolong tea polyphenol extract induces apoptosis in human stomach cancer cells.**
  Author(s): Hibasami H, Jin ZX, Hasegawa M, Urakawa K, Nakagawa M, Ishii Y, Yoshioka K.
  Source: Anticancer Res. 2000 November-December; 20(6B): 4403-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11205279&dopt=Abstract

- **Oriental diagnosis in stomach cancer patients.**
  Author(s): Garnery JP, Matsumoto I, Sawa T, Nagayama K, Manaka Y, Ikezono E.
  Source: The American Journal of Chinese Medicine. 1979 Spring; 7(1): 91-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=420160&dopt=Abstract

- **Oriental diagnosis in stomach cancer patients.**
  Author(s): Garnery JP, Matsumoto M, Yoshida T, Sawa T, Nagayama K, Ikezono E.
  Source: Kitasato Arch Exp Med. 1978 December; 51(3-4): 81-94. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=757863&dopt=Abstract

- **Orthotopic transplantation of histologically intact clinical specimens of stomach cancer to nude mice: correlation of metastatic sites in mouse and individual patient donors.**
  Author(s): Furukawa T, Kubota T, Watanabe M, Kitajima M, Hoffman RM.
  Source: International Journal of Cancer. Journal International Du Cancer. 1993 February 20; 53(4): 608-12.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8436434&dopt=Abstract

- **Osteonectin-expressing cells in human stomach cancer and their possible clinical significance.**
  Author(s): Maeng HY, Song SB, Choi DK, Kim KE, Jeong HY, Sakaki Y, Furihata C.
  Source: Cancer Letters. 2002 October 8; 184(1): 117-21.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12104055&dopt=Abstract

- **Pathogenesis and prevention of stomach cancer.**
  Author(s): Youn HS, Ko GH, Chung MH, Lee WK, Cho MJ, Rhee KH.
  Source: Journal of Korean Medical Science. 1996 October; 11(5): 373-85. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8934391&dopt=Abstract

- **Pathological prognostic factors in the second British Stomach Cancer Group trial of adjuvant therapy in resectable gastric cancer.**
  Author(s): Yu CC, Levison DA, Dunn JA, Ward LC, Demonakou M, Allum WH, Hallisey MT.
  Source: British Journal of Cancer. 1995 May; 71(5): 1106-10.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7734309&dopt=Abstract

- **Peripheral blood lymphocyte subsets in patients with stomach cancer.**
  Author(s): Hong WS, Min YI, Son YS, Hong SI.
  Source: Journal of Korean Medical Science. 1995 June; 10(3): 164-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8527041&dopt=Abstract

- **Pernicious anemia and stomach cancer.**
  Author(s): Hirschowitz BI.
  Source: Scandinavian Journal of Gastroenterology. 2001 August; 36(8): 896.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11495089&dopt=Abstract

- **Perspectives on stomach cancer.**
  Author(s): Chang JC.
  Source: Journal of Korean Medical Science. 1994 August; 9(4): 277-80. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7848574&dopt=Abstract

- **Pharmacogenetics of stomach cancer.**
  Author(s): Toffoli G, Cecchin E.
  Source: Suppl Tumori. 2003 September-October; 2(5): S19-22. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12914384&dopt=Abstract

- **Plant sterols and risk of stomach cancer: a case-control study in Uruguay.**
  Author(s): De Stefani E, Boffetta P, Ronco AL, Brennan P, Deneo-Pellegrini H, Carzoglio JC, Mendilaharsu M.
  Source: Nutrition and Cancer. 2000; 37(2): 140-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11142085&dopt=Abstract

- **Polyozellus multiplex, a Korean wild mushroom, as a potent chemopreventive agent against stomach cancer.**
  Author(s): Lee IS, Nishikawa A.
  Source: Life Sciences. 2003 November 7; 73(25): 3225-34.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=14561527&dopt=Abstract

- **Post-transcriptional control of c-erb B-2 overexpression in stomach cancer cells.**
  Author(s): Bae CD, Juhnn YS, Park JB.
  Source: Experimental & Molecular Medicine. 2001 March 31; 33(1): 15-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11322480&dopt=Abstract

- **Prediagnostic serum selenium and zinc levels and subsequent risk of lung and stomach cancer in Japan.**
  Author(s): Kabuto M, Imai H, Yonezawa C, Neriishi K, Akiba S, Kato H, Suzuki T, Land CE, Blot WJ.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 1994 September; 3(6): 465-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8000296&dopt=Abstract

- **Prevention of hepatic metastases by liver lectin blocking with D-galactose in stomach cancer patients. A prospectively randomized clinical trial.**
  Author(s): Kosik J, Gil J, Szmigielski S, Beuth J, Pulverer G.
  Source: Anticancer Res. 1997 March-April; 17(2B): 1411-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9137507&dopt=Abstract

- **Prognostic value of DNA flow cytometry in stomach cancer: a 5-year prospective study.**
  Author(s): Lee KH, Lee JS, Lee JH, Kim SW, Suh C, Kim WK, Kim SH, Min YI, Kim BS, Park KC, Lee MS, Sun HS.
  Source: British Journal of Cancer. 1999 April; 79(11-12): 1727-35.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10206284&dopt=Abstract

- **Proliferation of osteoclast-like giant cells in a metastatic bone tumor from stomach cancer: report of a case and analysis of the autopsy findings.**
  Author(s): Saeki T, Mandai K, Moriwaki S, Yamagami K, Sakamoto N, Takiyama W, Takashima S.
  Source: Surgery Today. 1996; 26(4): 276-80.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8727950&dopt=Abstract

- **Promising results in stomach cancer trial.**
  Author(s): Kerr C.
  Source: The Lancet Oncology. 2002 September; 3(9): 523.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12217783&dopt=Abstract

- **Prospective study of educational background and stomach cancer in Japan.**
  Author(s): Fujino Y, Tamakoshi A, Ohno Y, Mizoue T, Tokui N, Yoshimura T; JACC Study Group. Japan Collaborative Cohort Study for Evaluation of Cancer Risk.
  Source: Preventive Medicine. 2002 August; 35(2): 121-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12200096&dopt=Abstract

- **Prospective study of screening for stomach cancer in Japan.**
  Author(s): Mizoue T, Yoshimura T, Tokui N, Hoshiyama Y, Yatsuya H, Sakata K, Kondo T, Kikuchi S, Toyoshima H, Hayakawa N, Tamakoshi A, Ohno Y, Fujino Y, Kaneko S; Japan Collaborative Cohort Study Group.
  Source: International Journal of Cancer. Journal International Du Cancer. 2003 August 10; 106(1): 103-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12794764&dopt=Abstract

- **Prospective, double-blind, placebo-controlled randomized trial of cimetidine in gastric cancer. British Stomach Cancer Group.**
  Author(s): Langman MJ, Dunn JA, Whiting JL, Burton A, Hallissey MT, Fielding JW, Kerr DJ.
  Source: British Journal of Cancer. 1999 December; 81(8): 1356-62.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10604733&dopt=Abstract

- **Protective effect of allium vegetables against both esophageal and stomach cancer: a simultaneous case-referent study of a high-epidemic area in Jiangsu Province, China.**
  Author(s): Gao CM, Takezaki T, Ding JH, Li MS, Tajima K.
  Source: Japanese Journal of Cancer Research : Gann. 1999 June; 90(6): 614-21.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10429652&dopt=Abstract

- **Protective effect of fruits and vegetables on stomach cancer in a cohort of Swedish twins.**
  Author(s): Terry P, Nyren O, Yuen J.
  Source: International Journal of Cancer. Journal International Du Cancer. 1998 March 30; 76(1): 35-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9533759&dopt=Abstract

- **Protective effect of green tea on the risks of chronic gastritis and stomach cancer.**
  Author(s): Setiawan VW, Zhang ZF, Yu GP, Lu QY, Li YL, Lu ML, Wang MR, Guo CH, Yu SZ, Kurtz RC, Hsieh CC.
  Source: International Journal of Cancer. Journal International Du Cancer. 2001 May 15; 92(4): 600-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11304697&dopt=Abstract

- **Racial factors cannot explain superior Japanese outcomes in stomach cancer.**
  Author(s): Noguchi M.
  Source: Archives of Surgery (Chicago, Ill. : 1960). 1997 January; 132(1): 99.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9006560&dopt=Abstract

- **Racial factors cannot explain superior Japanese outcomes in stomach cancer.**
  Author(s): Hundahl SA, Stemmermann GN, Oishi A.
  Source: Archives of Surgery (Chicago, Ill. : 1960). 1996 February; 131(2): 170-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8611074&dopt=Abstract

- **Re: increased risk of neuroectodermal tumors and stomach cancer in relatives of patients with Ewing's sarcoma family of tumors.**
  Author(s): Waldum HL, Brenna E.
  Source: Journal of the National Cancer Institute. 1995 June 21; 87(12): 934-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7666486&dopt=Abstract

- **Reduced activity of anabolizing enzymes in 5-fluorouracil-resistant human stomach cancer cells.**
  Author(s): Inaba M, Mitsuhashi J, Sawada H, Miike N, Naoe Y, Daimon A, Koizumi K, Tsujimoto H, Fukushima M.
  Source: Japanese Journal of Cancer Research : Gann. 1996 February; 87(2): 212-20.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8609072&dopt=Abstract

- **Reduced expression of tissue inhibitor of metalloproteinase in nodal metastasis of stomach cancer.**
  Author(s): Ko BK, Cho HR, Choi DW, Nam CW, Park CJ, Kim GY, Kim SS, Woo YJ, Huh J, Kim MY.
  Source: Journal of Korean Medical Science. 1998 June; 13(3): 286-90.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9681807&dopt=Abstract

- **Regional risk factors for stomach cancer in the FRG.**
  Author(s): Boeing H, Frentzel-Beyme R.
  Source: Environmental Health Perspectives. 1991 August; 94: 83-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1954945&dopt=Abstract

- **Relationship between mortality rate of stomach cancer and cerebrovascular disease and concentrations of magnesium and calcium in well water in Hyogo prefecture.**
  Author(s): Sakamoto N, Shimizu M, Wakabayashi I, Sakamoto K.
  Source: Magnes Res. 1997 September; 10(3): 215-23.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9483482&dopt=Abstract

- **Relationship of p53 and Helicobacter pylori to clinicopathological features of human remnant stomach cancer after gastric surgery for primary gastric cancer.**
  Author(s): Baba M, Konno H, Tanaka T, Kamiya K, Baba S, Sugimura H, Nakamura S.
  Source: Oncol Rep. 2001 July-August; 8(4): 831-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11410793&dopt=Abstract

- **Relationship of urinary sodium and potassium and of urinary sodium/creatinine, potassium/creatinine and sodium/potassium ratios to stomach cancer and cerebrovascular disease mortalities in Japanese women.**
  Author(s): Takemori K, Mikami S, Nihira S, Sasaki N.
  Source: The Tohoku Journal of Experimental Medicine. 1993 November; 171(3): 185-94.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8160175&dopt=Abstract

- **Relatives of prostate cancer patients have an increased risk of prostate and stomach cancers: a population-based, cancer registry study in Finland.**
  Author(s): Matikaine MP, Pukkala E, Schleutker J, Tammela TL, Koivisto P, Sankila R, Kallioniemi OP.
  Source: Cancer Causes & Control : Ccc. 2001 April; 12(3): 223-30.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11405327&dopt=Abstract

- **Risk factors for stomach cancer in Brazil (I): a case-control study among non-Japanese Brazilians in Sao Paulo.**
  Author(s): Nishimoto IN, Hamada GS, Kowalski LP, Rodrigues JG, Iriya K, Sasazuki S, Hanaoka T, Tsugane S; Sao Paulo--Japan Cancer Project Gastric Cancer Study Group.
  Source: Japanese Journal of Clinical Oncology. 2002 August; 32(8): 277-83.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12411564&dopt=Abstract

- **Risk factors for stomach cancer in Brazil (II): a case-control study among Japanese Brazilians in Sao Paulo.**
  Author(s): Hamada GS, Kowalski LP, Nishimoto IN, Rodrigues JJ, Iriya K, Sasazuki S, Hanaoka T, Tsugane S; Sao Paulo--Japan Cancer Project Gastric Cancer Study Group.
  Source: Japanese Journal of Clinical Oncology. 2002 August; 32(8): 284-90.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12411565&dopt=Abstract

- **Risk factors for stomach cancer in sixty-five Chinese counties.**
  Author(s): Kneller RW, Guo WD, Hsing AW, Chen JS, Blot WJ, Li JY, Forman D, Fraumeni JF Jr.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 1992 January-February; 1(2): 113-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1306092&dopt=Abstract

- **Risk factors for stomach cancer: a population-based case-control study in Shanghai.**
  Author(s): Yu GP, Hsieh CC.
  Source: Cancer Causes & Control : Ccc. 1991 May; 2(3): 169-74.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1873447&dopt=Abstract

- **Risk of stomach cancer associated with 12 workplace hazards: analysis of death certificates from 24 states of the United States with the aid of job exposure matrices.**
  Author(s): Cocco P, Ward MH, Dosemeci M.
  Source: Occupational and Environmental Medicine. 1999 November; 56(11): 781-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10658565&dopt=Abstract

- **Risk of stomach cancer in association with serum cholesterol and beta-lipoprotein.**
  Author(s): Tornberg SA, Carstensen JM, Holm LE.
  Source: Acta Oncologica (Stockholm, Sweden). 1988; 27(1): 39-42.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3365353&dopt=Abstract

- **Risk of stomach cancer in patients with gastric or duodenal ulcer.**
  Author(s): La Vecchia C, Braga C, Negri E, Franceschi S.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 1997 February; 6(1): 20-3.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9161808&dopt=Abstract

- **Risk of stomach cancer in patients with peptic ulcer disease.**
  Author(s): Hansson LE.
  Source: World Journal of Surgery. 2000 March; 24(3): 315-20. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10658066&dopt=Abstract

- **Risk of stomach cancer in relation to consumption of cigarettes, alcohol, tea and coffee in Warsaw, Poland.**
  Author(s): Chow WH, Swanson CA, Lissowska J, Groves FD, Sobin LH, Nasierowska-Guttmejer A, Radziszewski J, Regula J, Hsing AW, Jagannatha S, Zatonski W, Blot WJ.
  Source: International Journal of Cancer. Journal International Du Cancer. 1999 June 11; 81(6): 871-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10362132&dopt=Abstract

- **Role of laparoscopy in the management of stomach cancer.**
  Author(s): Goh PM, So JB.
  Source: Seminars in Surgical Oncology. 1999 June; 16(4): 321-6. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10332778&dopt=Abstract

- **Salt intake, cured meat consumption, refrigerator use and stomach cancer incidence: a prospective cohort study (Netherlands).**
  Author(s): van den Brandt PA, Botterweck AA, Goldbohm RA.
  Source: Cancer Causes & Control : Ccc. 2003 June; 14(5): 427-38.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12946037&dopt=Abstract

- **Selective induction of apoptosis by ar-turmerone isolated from turmeric (Curcuma longa L) in two human leukemia cell lines, but not in human stomach cancer cell line.**
  Author(s): Aratanechemuge Y, Komiya T, Moteki H, Katsuzaki H, Imai K, Hibasami H.
  Source: International Journal of Molecular Medicine. 2002 May; 9(5): 481-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11956652&dopt=Abstract

- **Sequential numerical changes of chromosomes 7 and 18 in diffuse-type stomach cancer cell lines: combined comparative genomic hybridization, fluorescence in situ hybridization, and ploidy analyses.**
  Author(s): Okada K, Sugihara H, Bamba M, Bamba T, Hattori T.
  Source: Cancer Genetics and Cytogenetics. 2000 April 15; 118(2): 99-107.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10748289&dopt=Abstract

- **Sialyl-Tn antigen as a useful predictor of poor prognosis in patients with advanced stomach cancer.**
  Author(s): Terashima S, Takano Y, Ohori T, Kanno T, Kimura T, Motoki R, Kawaguchi T.
  Source: Surgery Today. 1998; 28(7): 682-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9697259&dopt=Abstract

- **Significance of a positive oesophageal margin in stomach cancer.**
  Author(s): Chan WH, Wong WK, Khin LW, Chan HS, Soo KC.
  Source: The Australian and New Zealand Journal of Surgery. 2000 October; 70(10): 700-3.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11021482&dopt=Abstract

- **Socioeconomic status and stomach cancer incidence in men: results from The Netherlands Cohort Study.**
  Author(s): van Loon AJ, Goldbohm RA, van den Brandt PA.
  Source: Journal of Epidemiology and Community Health. 1998 March; 52(3): 166-71.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9616421&dopt=Abstract

- **Soybean agglutinin binding as a useful prognostic indicator in stomach cancer.**
  Author(s): Terashima S, Takano Y, Ohori T, Kanno T, Kimura T, Motoki R, Kawaguchi T.
  Source: Surgery Today. 1997; 27(4): 293-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9086542&dopt=Abstract

- **Specific induction of apoptosis by 1,8-cineole in two human leukemia cell lines, but not a in human stomach cancer cell line.**
  Author(s): Moteki H, Hibasami H, Yamada Y, Katsuzaki H, Imai K, Komiya T.
  Source: Oncol Rep. 2002 July-August; 9(4): 757-60.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12066204&dopt=Abstract

- **Src/ERK but not phospholipase D is involved in keratinocyte growth factor-stimulated secretion of matrix metalloprotease-9 and urokinase-type plasminogen activator in SNU-16 human stomach cancer cell.**
  Author(s): Shin EY, Ma EK, Kim CK, Kwak SJ, Kim EG.
  Source: Journal of Cancer Research and Clinical Oncology. 2002 November; 128(11): 596-602. Epub 2002 October 23.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12458339&dopt=Abstract

- **Stomach cancer and occupation in Sweden: 1971-89.**
  Author(s): Aragones N, Pollan M, Gustavsson P.
  Source: Occupational and Environmental Medicine. 2002 May; 59(5): 329-37.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11983848&dopt=Abstract

- **Stomach cancer highly expresses both initiator and effector caspases; an immunohistochemical study.**
  Author(s): Yoo NJ, Kim HS, Kim SY, Park WS, Kim SH, Lee JY, Lee SH.
  Source: Apmis : Acta Pathologica, Microbiologica, Et Immunologica Scandinavica. 2002 November; 110(11): 825-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12588423&dopt=Abstract

- **Stomach cancer history in the siblings of patients with gastric carcinoma.**
  Author(s): Bakir T, Can G, Erkul S, Siviloglu C.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 2000 December; 9(6): 401-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11201678&dopt=Abstract

- **Stomach cancer incidence in the world.**
  Author(s): Yamamoto S.
  Source: Japanese Journal of Clinical Oncology. 2001 September; 31(9): 471.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11689605&dopt=Abstract

- **Stomach cancer mortality by prefectures in Japan.**
  Author(s): Yamamoto S.
  Source: Japanese Journal of Clinical Oncology. 2000 April; 30(4): 209.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10830994&dopt=Abstract

- **Stomach cancer mortality continues to decline, Wisconsin and the US, 1982-1994.**
  Author(s): Wich B, Remington P.
  Source: Wis Med J. 1997 April; 96(4): 31-3. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9128432&dopt=Abstract

- **Stomach cancer.**
  Author(s): McCulloch P.
  Source: Clin Evid. 2002 June; (7): 429-39. Review. No Abstract Available. Update In:
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12230668&dopt=Abstract

- **Stomach cancer-related mortality rate is higher in young Japanese women than in men.**
  Author(s): Sun J, Misumi J, Shimaoka A, Aoki K, Kono A.
  Source: Public Health. 2002 January; 116(1): 39-44.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11896635&dopt=Abstract

- **Stomach cancer-related mortality.**
  Author(s): Sun J, Misumi J, Shimaoka A, Aoki K, Esaki F.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 2001 February; 10(1): 61-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11263592&dopt=Abstract

- **Surgery for stomach cancer in a defined Swedish population: current practices and operative results. Swedish Gastric Cancer Study Group.**
  Author(s): Hansson LE, Ekstrom AM, Bergstrom R, Nyren O.
  Source: The European Journal of Surgery = Acta Chirurgica. 2000 October; 166(10): 787-95.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11071166&dopt=Abstract

- **Survival in stomach cancer is improving: results of a nationwide population-based Swedish study.**
  Author(s): Hansson LE, Sparen P, Nyren O.
  Source: Annals of Surgery. 1999 August; 230(2): 162-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10450729&dopt=Abstract

- **The analytic epidemiologic study on occupational factors and stomach cancer occurrence.**
  Author(s): Jedrychowski W, Maugeri U, Jedrychowska I, Tobiasz-Adamczyk B, Gomola K.
  Source: G Ital Med Lav. 1990 January; 12(1): 3-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2136337&dopt=Abstract

- **The collagenase activities, interstitial collagenase and type IV collagenase, in human stomach cancer: with special reference to local spreading and lymph node metastasis.**
  Author(s): Otani Y.
  Source: Keio J Med. 1990 September; 39(3): 159-67.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2175001&dopt=Abstract

- **The decline in the incidence of stomach cancer in Sweden 1960-1984: a birth cohort phenomenon.**
  Author(s): Hansson LE, Bergstrom R, Sparen P, Adami HO.
  Source: International Journal of Cancer. Journal International Du Cancer. 1991 February 20; 47(4): 499-503.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1995480&dopt=Abstract

- **The effect of gastrin on growth of human stomach cancer cells.**
  Author(s): Ishizuka J, Martinez J, Townsend CM Jr, Thompson JC.
  Source: Annals of Surgery. 1992 May; 215(5): 528-34.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1616389&dopt=Abstract

- **The epidemiology of stomach cancer: correlating the past with the present. Socioeconomic influences in early life can influence mortality in adult life.**
  Author(s): Forman D, Goodman KJ.
  Source: Bmj (Clinical Research Ed.). 2000 June 24; 320(7251): 1682-3.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10864523&dopt=Abstract

- **The link between bracken fern and stomach cancer: milk.**
  Author(s): Alonso-Amelot ME.
  Source: Nutrition (Burbank, Los Angeles County, Calif.). 1997 July-August; 13(7-8): 694-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9263265&dopt=Abstract

- **The mechanism of c-erbB-2 gene product increase in stomach cancer cell lines.**
  Author(s): Bae CD, Park SE, Seong YS, Kimm SW, Park JB, Park JB.
  Source: Journal of Korean Medical Science. 1993 April; 8(2): 153-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8104420&dopt=Abstract

- **The mortality rate of the province of birth as a risk indicator for lung and stomach cancer mortality among Genoa residents born in other Italian provinces.**
  Author(s): Ceppi M, Vercelli M, Decarli A, Puntoni R.
  Source: European Journal of Cancer (Oxford, England : 1990). 1995; 31A(2): 193-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7718324&dopt=Abstract

- **The patient with stomach cancer.**
  Author(s): Agrawal S, Benjamin IS.
  Source: The Practitioner. 2003 May; 247(1646): 384-8, 390. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12760127&dopt=Abstract

- **The relationship between the frequency of the appearance of IgG against Helicobacter pylori and the main blood groups among patients with ulcer sickness and stomach cancer.**
  Author(s): Kopanski Z, Golec E, Witkowska B, Slowakiewicz E, Migas-Nirska A, Cienciala A.
  Source: European Journal of Medical Research. 1996 March 19; 1(6): 280-2.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9367940&dopt=Abstract

- **The risk of stomach cancer in patients with gastric or duodenal ulcer disease.**
  Author(s): Hansson LE, Nyren O, Hsing AW, Bergstrom R, Josefsson S, Chow WH, Fraumeni JF Jr, Adami HO.
  Source: The New England Journal of Medicine. 1996 July 25; 335(4): 242-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8657240&dopt=Abstract

- **The second British Stomach Cancer Group trial of adjuvant radiotherapy or chemotherapy in resectable gastric cancer: five-year follow-up.**
  Author(s): Hallissey MT, Dunn JA, Ward LC, Allum WH.
  Source: Lancet. 1994 May 28; 343(8909): 1309-12.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7910321&dopt=Abstract

- **The selection of cases for randomised trials: a registry survey of concurrent trial and non-trial patients. The British Stomach Cancer Group.**
  Author(s): Ward LC, Fielding JW, Dunn JA, Kelly KA.
  Source: British Journal of Cancer. 1992 November; 66(5): 943-50.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1419641&dopt=Abstract

- **The survival benefit of resection in patients with advanced stomach cancer: the Norwegian multicenter experience. Norwegian Stomach Cancer Trial.**
  Author(s): Haugstvedt T, Viste A, Eide GE, Soreide O.
  Source: World Journal of Surgery. 1989 September-October; 13(5): 617-21; Discussion 621-2.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2479177&dopt=Abstract

- **This and that: sequential theories for stomach cancer and the multiple applications of isotopic ratios.**
  Author(s): Max B.
  Source: Trends in Pharmacological Sciences. 1992 April; 13(4): 136-40. Review. Erratum In: Trends Pharmacol Sci 1992 June; 13(6): 232.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1589906&dopt=Abstract

- **Tobacco smoking and alcohol drinking as risk factors for stomach cancer: a case-control study in Uruguay.**
  Author(s): De Stefani E, Boffetta P, Carzoglio J, Mendilaharsu S, Deneo-Pellegrini H.
  Source: Cancer Causes & Control : Ccc. 1998 May; 9(3): 321-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9684712&dopt=Abstract

- **Total gastrectomy with extended lymphadenectomy for "curable" stomach cancer: experience in a non-Japanese Asian center.**
  Author(s): Hayes N, Ng EK, Raimes SA, Crofts TJ, Woods SD, Griffin SM, Chung SC.
  Source: Journal of the American College of Surgeons. 1999 January; 188(1): 27-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9915239&dopt=Abstract

- **Treatments for second malignancies after gastrectomy for stomach cancer.**
  Author(s): Furukawa H, Hiratsuka M, Iwanaga T, Imaoka S, Kabuto T, Ishikawa O, Sasaki Y, Kameyama M, Ohigashi H, Nakamori S.
  Source: Hepatogastroenterology. 1996 January-February; 43(7): 194-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8682461&dopt=Abstract

- **Trends in registered incidence of oesophageal and stomach cancer in the Oxford region, 1974-88.**
  Author(s): Harrison SL, Goldacre MJ, Seagroatt V.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 1992 April; 1(3): 271-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1467773&dopt=Abstract

- **Tumor-specific apoptosis induced by the human monoclonal antibody SC-1: a new therapeutical approach for stomach cancer.**
  Author(s): Vollmers HP, Hensel F, Hermann R, Dammrich J, Wozniak E, Gessner P, Herrmann B, Zimmermann U, Muller-Hermelink HK.
  Source: Oncol Rep. 1998 January-February; 5(1): 35-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9458378&dopt=Abstract

- **Unique sequence of pernicious anemia, stomach cancer, and myelodysplastic syndrome.**
  Author(s): Kondo H, Imamura T.
  Source: American Journal of Hematology. 1999 December; 62(4): 261.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10589088&dopt=Abstract

- **Unusual presentation of stomach cancer. A case report.**
  Author(s): de Souza LJ, Sawai M.
  Source: Indian Journal of Cancer. 1977 March; 14(1): 105-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=885566&dopt=Abstract

- **Urinary excretion of nitrate, N-nitrosoproline, 3-methyladenine, and 7-methylguanine in a Colombian population at high risk for stomach cancer.**
  Author(s): Stillwell WG, Glogowski J, Xu HX, Wishnok JS, Zavala D, Montes G, Correa P, Tannenbaum SR.
  Source: Cancer Research. 1991 January 1; 51(1): 190-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1988083&dopt=Abstract

- **Urinary excretion of N-nitrosamino acids and nitrate by inhabitants in high- and low-risk areas for stomach cancer in northern Japan.**
  Author(s): Kamiyama S, Ohshima H, Shimada A, Saito N, Bourgade MC, Ziegler P, Bartsch H.
  Source: Iarc Sci Publ. 1987; (84): 497-502.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3679430&dopt=Abstract

- **Urinary excretion of N-nitrosamino acids and nitrate by inhabitants of high- and low-risk areas for stomach cancer in Poland.**
  Author(s): Zatonski W, Ohshima H, Przewozniak K, Drosik K, Mierzwinska J, Krygier M, Chmielarczyk W, Bartsch H.
  Source: International Journal of Cancer. Journal International Du Cancer. 1989 November 15; 44(5): 823-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2583863&dopt=Abstract

- **Urinary pepsinogen I as a tumor marker of stomach cancer after total gastrectomy.**
  Author(s): Yamaguchi T, Takahashi T, Yokota T, Kitamura K, Noguchi A, Kamiguchi M, Doi M, Ahn T, Sawai K, Yamane T.
  Source: Cancer. 1991 August 15; 68(4): 906-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1649690&dopt=Abstract

- **Urinary salt excretion and stomach cancer mortality among four Japanese populations.**
  Author(s): Tsugane S, Akabane M, Inami T, Matsushima S, Ishibashi T, Ichinowatari Y, Miyajima Y, Watanabe S.
  Source: Cancer Causes & Control : Ccc. 1991 May; 2(3): 165-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1873446&dopt=Abstract

- **Usefulness of correlation analyses in the epidemiology of stomach cancer.**
  Author(s): Tominaga S, Ogawa H, Kuroishi T.
  Source: Natl Cancer Inst Monogr. 1982; 62: 135-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7167176&dopt=Abstract

- **U-shaped effect of drinking and linear effect of smoking on risk for stomach cancer in Japan.**
  Author(s): Kikuchi S, Nakajima T, Kobayashi O, Yamazaki T, Kikuichi M, Mori K, Oura S, Watanabe H, Nagawa H, Otani R, Okamoto N, Kurosawa M, Anzai H, Konishi T, Futagawa S, Mizobuchi N, Kobori O, Kaise R, Inaba Y, Wada O.
  Source: Japanese Journal of Cancer Research : Gann. 2002 September; 93(9): 953-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12359047&dopt=Abstract

- **Uterine metastasis from stomach cancer: radiological findings.**
  Author(s): Kim SH, Hwang HY, Choi BI.
  Source: Clinical Radiology. 1990 October; 42(4): 285-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2225738&dopt=Abstract

- **Value of the dynamic and delayed MR sequence with Gd-DTPA in the T-staging of stomach cancer: correlation with the histopathology.**
  Author(s): Kang BC, Kim JH, Kim KW, Lee DY, Baek SY, Lee SW, Jung WH.
  Source: Abdominal Imaging. 2000 January-February; 25(1): 14-24.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10652915&dopt=Abstract

- **Vitamin C, vitamin E, and multivitamin supplement use and stomach cancer mortality in the Cancer Prevention Study II cohort.**
  Author(s): Jacobs EJ, Connell CJ, McCullough ML, Chao A, Jonas CR, Rodriguez C, Calle EE, Thun MJ.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2002 January; 11(1): 35-41.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11815399&dopt=Abstract

- **Western blotting analysis for malignant lymphoma and stomach cancer antigens from carcinogen-transformed Bloom syndrome cells.**
  Author(s): Shiraishi Y.
  Source: International Journal of Cancer. Journal International Du Cancer. 1990 April 15; 45(4): 783-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2323853&dopt=Abstract

- **Why are diabetes, stomach cancer and circulatory diseases more common in Northern Sweden?**
  Author(s): Nystrom L, Rosen M, Wall S.
  Source: Scandinavian Journal of Primary Health Care. 1986 February; 4(1): 5-12.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3485808&dopt=Abstract

- **Why is pancreatic cancer incidence up; stomach cancer down?**
  Author(s): Krain LS.
  Source: Geriatrics. 1973 April; 28(4): 140-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4700067&dopt=Abstract

CHAPTER 2. NUTRITION AND STOMACH CANCER

Overview

In this chapter, we will show you how to find studies dedicated specifically to nutrition and stomach cancer.

Finding Nutrition Studies on Stomach Cancer

The National Institutes of Health's Office of Dietary Supplements (ODS) offers a searchable bibliographic database called the IBIDS (International Bibliographic Information on Dietary Supplements; National Institutes of Health, Building 31, Room 1B29, 31 Center Drive, MSC 2086, Bethesda, Maryland 20892-2086, Tel: 301-435-2920, Fax: 301-480-1845, E-mail: ods@nih.gov). The IBIDS contains over 460,000 scientific citations and summaries about dietary supplements and nutrition as well as references to published international, scientific literature on dietary supplements such as vitamins, minerals, and botanicals.[7] The IBIDS includes references and citations to both human and animal research studies.

As a service of the ODS, access to the IBIDS database is available free of charge at the following Web address: **http://ods.od.nih.gov/databases/ibids.html**. After entering the search area, you have three choices: (1) IBIDS Consumer Database, (2) Full IBIDS Database, or (3) Peer Reviewed Citations Only.

Now that you have selected a database, click on the "Advanced" tab. An advanced search allows you to retrieve up to 100 fully explained references in a comprehensive format. Type "stomach cancer" (or synonyms) into the search box, and click "Go." To narrow the search, you can also select the "Title" field.

---

[7] Adapted from **http://ods.od.nih.gov**. IBIDS is produced by the Office of Dietary Supplements (ODS) at the National Institutes of Health to assist the public, healthcare providers, educators, and researchers in locating credible, scientific information on dietary supplements. IBIDS was developed and will be maintained through an interagency partnership with the Food and Nutrition Information Center of the National Agricultural Library, U.S. Department of Agriculture.

The following is a typical result when searching for recently indexed consumer information on stomach cancer:

- **Diet, Helicobacter pylori infection, food preservation and gastric cancer risk: are there new roles for preventative factors?**
  Author(s): School of Nutrition, Tufts University.
  Source: Hwang, H Dwyer, J Russell, R M Nutr-Revolume 1994 March; 52(3): 75-83 0029-6643

- **Does vitamin C intake slow the progression of gastric cancer in Helicobacter pylori-infected populations?**
  Author(s): Department of Gastroenterology, Loyola University of Chicago, Maywood, IL 60153, USA.
  Source: Feiz, Hamid Reza Mobarhan, Sohrab Nutr-Revolume 2002 January; 60(1): 34-6 0029-6643

The following information is typical of that found when using the "Full IBIDS Database" to search for "stomach cancer" (or a synonym):

- **A pilot clinical trial of postoperative intensive weekly chemotherapy using cisplatin, epi-doxorubicin, 5-fluorouracil, 6S-leucovorin, glutathione and filgrastim in patients with resected gastric cancer.**
  Author(s): Section of Experimental Oncology, Ospedale S. Salvatore, Pesaro, Italy.
  Source: Graziano, F Cardarelli, N Marcellini, M Menichetti, E T Catalano, G Cascinu, S Tumori. 1998 May-June; 84(3): 368-71 0300-8916

- **A Potential Use of a Synthetic Retinoid TAC-101 as an Orally Active Agent That Blocks Angiogenesis in Liver Metastases of Human Stomach Cancer Cells.**
  Author(s): Pharmaceutical Research and Development Center, The Tokyo Metropolitan Institute of Medical Science (Rinshoken), Tokyo Metropolitan Organization for Medical Research, Bunkyo-ku, Tokyo 113-8613, Japan. oikawa@rinshoken.or.jp
  Source: Oikawa, T Murakami, K Sano, M Shibata, J Wierzba, K Yamada, Y Jpn-J-Cancer-Res. 2001 November; 92(11): 1225-34 0910-5050

- **A prospective cohort study of soy product intake and stomach cancer death.**
  Author(s): Department of Public Health, Gifu University School of Medicine, 40 Tsukasa-machi, Gifu 500-8705, Japan. chisato@cc.gifu-u.ac.jp
  Source: Nagata, C Takatsuka, N Kawakami, N Shimizu, H Br-J-Cancer. 2002 July 1; 87(1): 31-6 0007-0920

- **A prospective study of stomach cancer death in relation to green tea consumption in Japan.**
  Author(s): Department of Public Health, Showa University School of Medicine, 1-5-8 Hatanodai, Shinagawa, Tokyo 142-8555, Japan. yhkiss@med.showa-u.ac.jp
  Source: Hoshiyama, Y Kawaguchi, T Miura, Y Mizoue, T Tokui, N Yatsuya, H Sakata, K Kondo, T Kikuchi, S Toyoshima, H Hayakawa, N Tamakoshi, A Ohno, Y Yoshimura, T Br-J-Cancer. 2002 July 29; 87(3): 309-13 0007-0920

- **Activation and the interaction of proapoptotic genes in modulating sensitivity to anticancer drugs in gastric cancer cells.**
  Author(s): Department of Surgical Oncology, Research Institute for Radiation Biology and Medicine, Hiroshima University, Minami-ku, Hiroshima 734-8553, Japan.
  Source: Kim, R Ohi, Y Inoue, H Toge, T Int-J-Oncol. 1999 October; 15(4): 751-6 1019-6439

- **Activation of JNK by TPA promotes apoptosis via PKC pathway in gastric cancer cells.**
  Author(s): Key Laboratory of the Ministry of Education for Cell Biology and Tumor Cell Engineering, The School of Life Sciences, Xiamen University, Fujian Province, 361005, China.
  Source: Chen, Y Wu, Q Song, S Y Su, W J World-J-Gastroenterol. 2002 December; 8(6): 1014-8 1007-9327

- **Activity-guided fractionation of green tea extract with antiproliferative activity against human stomach cancer cells.**
  Author(s): kinjojun@fukuoka-u.ac.jp
  Source: Kinjo, J Nagao, T Tanaka, T Nonaka, G Okawa, M Nohara, T Okabe, H Biol-Pharm-Bull. 2002 September; 25(9): 1238-40 0918-6158

- **Adjuvant intraperitoneal chemotherapy with cisplatinum, mitoxantrone, 5-fluorouracil, and calcium folinate in patients with gastric cancer: a phase II study.**
  Author(s): Medical Oncology Department, Institute of Oncology, Istanbul Medical Faculty, Istanbul, Turkey.
  Source: Topuz, E Basaran, M Saip, P Aydiner, A Argon, A Sakar, B Tas, F Uygun, K Bugra, D Aykan, N F Am-J-Clin-Oncol. 2002 December; 25(6): 619-24 0277-3732

- **Advanced gastric cancer with liver metastases successfully treated with S-1.**
  Author(s): Icho-Hospital, 4-3 Honsio-cho, Shinjuku-ku, Tokyo 160-0003, Japan. icho-ikyoku@col.hi-ho.ne.jp
  Source: Watanabe, S Tanaka, T Takeuchi, T Takabayashi, H Hirayama, Y Int-J-Clin-Oncol. 2002 October; 7(5): 326-9 1341-9625

- **Alcohol consumption, smoking and risk of gastric cancer: case-control study from Moscow, Russia.**
  Author(s): Department of Epidemiology and Prevention, Institute of Carcinogenesis, Russian Cancer Research Center, Russian Academy of Medical Sciences, Moscow.
  Source: Zaridze, D Borisova, E Maximovitch, D Chkhikvadze, V Cancer-Causes-Control. 2000 April; 11(4): 363-71 0957-5243

- **An oral anticancer drug, TS-1, enabled a patient with advanced gastric cancer with Virchow's metastasis to receive curative resection.**
  Author(s): Department of Surgery, NTT West Osaka Hospital, 2-6-40 Karasugatsuji, Tennouji-ku, Osaka 543-8922, Japan.
  Source: Iwazawa, T Kinuta, M Yano, H Matsui, S Tamagaki, S Yasue, A Okada, K Kanoh, T Tono, T Nakano, Y Okamoto, S Monden, T Gastric-Cancer. 2002; 5(2): 96-101 1436-3291

- **Applying a highly specific and reproducible cDNA RDA method to clone garlic up-regulated genes in human gastric cancer cells.**
  Author(s): Beijing Institute for Cancer Research, Beijing Laboratory of Molecular Oncology, School of Oncology, Peking University, 1 Da-Hong-Luo-Chang Street, Western District, Beijing 100034, China.
  Source: Li, Y Lu, Y Y World-J-Gastroenterol. 2002 April; 8(2): 213-6 1007-9327

- **Blood selenium level and the interaction of copper, zinc, and manganese in stomach cancer.**
  Source: Saito, K. Saito, T. Hosokawa, T. Ito, K. Selenium in biology and medicine : proceedings of the Third International Symposium on Selenium in Biology and Medicine, held May 27-June 1, 1984, Xiangshan (Fragrance Hills) Hotel Beijing, People's Republic of China. New York : Van Nostrand Reinhold, c1987. page 1104-1115. ISBN: 0442221088

- **Bracken fern (Pteridium aquilinum) ingestion and oesophageal and stomach cancer.**
  Author(s): University of Wales, UK.
  Source: Marliere, C A Wathern, P Castro, M C O'Connor, P Galvao, M A IARC-Sci-Publ. 2002; 156: 379-80 0300-5038

- **Combination chemotherapy of irinotecan plus cisplatin for advanced gastric cancer: efficacy and feasibility in clinical practice.**
  Author(s): Division of Digestive Endoscopy and Gastrointestinal Oncology, National Cancer Center Hospital East, Kashiwa, Chiba, Japan.
  Source: Yoshida, M Boku, N Ohtsu, A Muto, M Nagashima, F Yoshida, S Gastric-Cancer. 2001; 4(3): 144-9 1436-3291

- **Comparative study of lifestyles of residents in high and low risk areas for gastric cancer in Jiangsu Province, China; with special reference to allium vegetables.**
  Author(s): Division of Epidemiology, Aichi Cancer Center Research Institute, Nagoya, Japan.
  Source: Takezaki, T Gao, C M Ding, J H Liu, T K Li, M S Tajima, K J-Epidemiol. 1999 November; 9(5): 297-305 0917-5040

- **Construction of cDNA representational difference analysis based on two cDNA libraries and identification of garlic inducible expression genes in human gastric cancer cells.**
  Author(s): Beijing Institute for Cancer Research, Beijing Laboratory of Molecular Oncology, School of Oncology, Peking University, 1 Da-Hong-Luo-Chang Street, Western District, Beijing 100034, China.
  Source: Li, Y Yang, L Cui, J T Li, W M Guo, R F Lu, Y Y World-J-Gastroenterol. 2002 April; 8(2): 208-12 1007-9327

- **Cytochrome P450 2E1 genetic polymorphism and gastric cancer in Changle, Fujian Province.**
  Author(s): Department of Epidemiology, Fujian Medical University, Fuzhou 350004, Fujian Province, China. zjcailin@pub5.fz.fj.cn
  Source: Cai, L Yu, S Z Zhan, Z F World-J-Gastroenterol. 2001 December; 7(6): 792-5 1007-9327

- **Detection of methylation damage in DNA of gastric cancer tissues using 32P postlabelling assay.**
  Author(s): Department of Veterinary Pathology, College of Medicine, Seoul National University, Suwon, Korea. daeyong@plaza.snu.ac.kr
  Source: Kim, D Y Cho, M H Yang, H K Hemminki, K Kim, J P Jang, J J KuMarch, R Jpn-J-Cancer-Res. 1999 October; 90(10): 1104-8 0910-5050

- **Diet and stomach cancer: a case-control study in South India.**
  Author(s): Division of Epidemiology and Clinical Research, Regional Cancer Centre, Medical College PO, Trivandrum, Kerala, India. rajanrcc@techpark.net
  Source: Mathew, A Gangadharan, P Varghese, C Nair, M K Eur-J-Cancer-Prevolume 2000 April; 9(2): 89-97 0959-8278

- **Dietary factors and stomach cancer mortality.**
  Author(s): Department of Clinical Epidemiology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, 1-1 Iseigaoka, Yahatanishi-ku, Kitakyushu 807-8555, Japan. letngoan@med.uoeh-u.ac.jp
  Source: Ngoan, L T Mizoue, T Fujino, Y Tokui, N Yoshimura, T Br-J-Cancer. 2002 July 1; 87(1): 37-42 0007-0920

- **Dietary habits and epidemiology of gastric carcinoma.**
  Author(s): Department of Preventive Medicine and Public Health, Nutrition and Toxicology, School of Medicine, University of Valencia, Valencia, Spain. Dolores.Corella@uv.es
  Source: Corella, D Guillen, M Hepatogastroenterology. 2001 Nov-December; 48(42): 1537-43 0172-6390

- **Dietary Protective and Risk Factors for Esophageal and Stomach Cancers in a Low-epidemic Area for Stomach Cancer in Jiangsu Province, China: Comparison with Those in a High-epidemic Area.**
  Author(s): Division of Epidemiology and Prevention, Aichi Cancer Center Research Institute, Chikusa-ku, Nagoya 464-8681, Japan. ttakezak@aichi-cc.jp
  Source: Takezaki, T Gao, C M Wu, J Z Ding, J H Liu, Y T Zhang, Y Li, S P Su, P Liu, T K Tajima, K Jpn-J-Cancer-Res. 2001 November; 92(11): 1157-65 0910-5050

- **Differential display of vincristine-resistance-related genes in gastric cancer SGC7901 cell.**
  Author(s): Institute of Digestive disease, Xijing Hospital, Fourth Military Medical University, Xi'an 710033, Shaanxi Province, China.
  Source: Wang, Xin Lan, Mei Shi, Yong Quan Lu, Ju Zhong, Yue Xia Wu, Han Ping Zai, Hui Hong Ding, Jie Wu, Kai Cun Pan, Bo Rong Jin, Jian Ping Fan, Dai Ming World-J-Gastroenterol. 2002 February; 8(1): 54-9 1007-9327

- **Docetaxel 75 mg/m(2) is active and well tolerated in patients with metastatic or recurrent gastric cancer: a phase II trial.**
  Author(s): Department of Internal Medicine, Seoul National University Hospital, Seoul, Korea. bangyj@plaza.snu.ac.kr
  Source: Bang, Y J Kang, W K Kang, Y K Kim, H C Jacques, C Zuber, E Daglish, B Boudraa, Y Kim, W S Heo, D S Kim, N K Jpn-J-Clin-Oncol. 2002 July; 32(7): 248-54 0368-2811

- **Docetaxel, 5-fluorouracil, and leucovorin as treatment for advanced gastric cancer: results of a phase II study.**
  Author(s): Medical Oncology Service, Complexo Hospitalario de Pontevedra, C/Loureiro Crespo, 2, 36001 Pontevedra, Spain.
  Source: Constenla, M Garcia Arroyo, R Lorenzo, I Carrete, N Campos, B Palacios, P Gastric-Cancer. 2002; 5(3): 142-7 1436-3291

- **Down-regulation of protein kinase C activity by sorbitol rapidly induces apoptosis in human gastric cancer cell lines.**
  Author(s): Department of Biosignaling, Faculty of Medicine, Tottori University, Yonago 683-8503, Japan. 1mizawa@grape.med.tottori-u.ac.jp
  Source: Izawa, M Teramachi, K Apoptosis. 2001 October; 6(5): 353-8 1360-8185

- **Effect of vitamin E succinate on expression of TGF-beta1, c-Jun and JNK1 in human gastric cancer SGC-7901 cells.**
  Author(s): Department of Nutrition and Food Hygiene, School of Public Health, Harbin Medical University, Harbin 150001, Heilongjiang Province, China. wukun@public.hr.hl.cn
  Source: Wu, K Liu, B H Zhao, D Y Zhao, Y World-J-Gastroenterol. 2001 February; 7(1): 83-7 1007-9327

- **Effective combination chemotherapy with paclitaxel and cisplatin with or without human granulocyte colony-stimulating factor and/or erythropoietin in patients with advanced gastric cancer.**
  Author(s): Department of Internal Medicine I, University Vienna, Waehringer Guertel 18-20, A-1090 Vienna, Austria.
  Source: Kornek, G V Raderer, M Schull, B Fiebiger, W Gedlicka, C Lenauer, A Depisch, D Schneeweiss, B Lang, F Scheithauer, W Br-J-Cancer. 2002 June 17; 86(12): 1858-63 0007-0920

- **Effects of alpha-tocopherol and beta-carotene supplementation on gastric cancer incidence in male smokers (ATBC Study, Finland).**
  Author(s): National Public Health Institute, Helsinki, Finland. Nea.Malila@cancer.fi
  Source: Malila, N Taylor, P R Virtanen, M J Korhonen, P Huttunen, J K Albanes, D Virtamo, J Cancer-Causes-Control. 2002 September; 13(7): 617-23 0957-5243

- **Effects of Chinese Jianpi herbs on cell apoptosis and related gene expression in human gastric cancer grafted onto nude mice.**
  Author(s): Department of Oncology, Longhua Hospital, Shanghai University of Traditional Chinese Medicine, Shanghai 200032, China. aiguang@hotmail.com
  Source: Zhao, A G Zhao, H L Jin, X J Yang, J K Tang, L D World-J-Gastroenterol. 2002 October; 8(5): 792-6 1007-9327

- **Enhanced expression of cytochrome P450 in stomach cancer.**
  Author(s): Department of Pathology, University of Aberdeen, Foresterhill, UK.
  Source: Murray, G I Taylor, M C Burke, M D Melvin, W T Br-J-Cancer. 1998 April; 77(7): 1040-4 0007-0920

- **Epidemiologic trends in esophageal and gastric cancer in the United States.**
  Author(s): Biostatistics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, 6120 Executive Blvd, Room 8026, MSC 7244, Bethesda, MD 20892-7244, USA. brownl@mail.nih.gov
  Source: Brown, L M Devesa, S S Surg-Oncol-Clin-N-Am. 2002 April; 11(2): 235-56 1055-3207

- **Epidemiology of Helicobacter pylori and gastric cancer.**
  Author(s): Department of Public Health, Aichi Medical University School of Medicine, 21 Karimata, Yazako, Nagakute-cho, Aichi 480-1195, Japan.
  Source: Kikuchi, S Gastric-Cancer. 2002; 5(1): 6-15 1436-3291

- **Epirubicin, folinic acid, fluorouracil, and etoposide in the treatment of advanced gastric cancer: phase II study of the Southern Italy Oncology Group (GOIM).**
  Author(s): Department of Medicine, Oncology Institute of Bari, Italy.
  Source: Colucci, G Giuliani, F Gebbia, V Testa, A Borsellino, N Lelli, G Fortunato, S Lopez, M Maiello, E Gebbia, N Am-J-Clin-Oncol. 1999 June; 22(3): 262-6 0277-3732

- **Etoposide, l-leucovorin and fluorouracil (ELF) regimen in metastatic gastric cancer: a phase II study.**
  Author(s): Istituto di Oncologia Universita di Messina, Italy.
  Source: Adamo, V Scimone, A Maisano, R Altavilla, G Ferraro, G Laudani, A Pergolizzi, S Zanghi, M J-Chemother. 1999 February; 11(1): 74-7 1120-009X

- **Expression and function of classical protein kinase C isoenzymes in gastric cancer cell line and its drug-resistant sublines.**
  Author(s): Institute of Digestive Disease, Xijing Hospital, Fourth Military Medical University, Xi'an 710032, Shaanxi Province, China.

Source: Han, Ying Han, Zhe Yi Zhou, Xin Min Shi, Ru Zheng, Yue Shi, Yong Quan Miao, Ji Yan Pan, Bo Rong Fan, Dai Ming World-J-Gastroenterol. 2002 June; 8(3): 441-5 1007-9327

- **Expression of multidrug resistance-associated protein1,P-glycoprotein, and thymidylate synthase in gastric cancer patients treated with 5-fluorouracil and doxorubicin-based adjuvant chemotherapy after curative resection.**
  Author(s): Department of Hematology-Oncology, Ajou University School of Medicine, Suwon, 442-721, Korea (Rep.).
  Source: Choi, J H Lim, H Y Joo, H J Kim, H S Yi, J W Kim, H C Cho, Y K Kim, M W Lee, K B Br-J-Cancer. 2002 May 20; 86(10): 1578-85 0007-0920

- **Extended radical surgery against gastric cancer: low complication and high survival rates.**
  Author(s): Department of Surgery, Krankenhaus der Barmherzigen Brueder, St. Veint/Glan, Austria.
  Source: Jatzko, G Lisborg, P H Klimpfinger, M Denk, H Jpn-J-Clin-Oncol. 1992 April; 22(2): 102-6 0368-2811

- **FEP regimen (epidoxorubicin, etoposide and cisplatin) in advanced gastric cancer, with or without low-dose GM-CSF: an Italian Trial in Medical Oncology (ITMO) study.**
  Author(s): ITMO, c/o Division of Medical Oncology B of Istituto Nazionale per lo Studio e la Cura dei Tumori, Milan, Italy.
  Source: Bajetta, E Di Bartolomeo, M Carnaghi, C Buzzoni, R Mariani, L Gebbia, V Comella, G Pinotti, G Ianniello, G Schieppati, G Bochicchio, A M Maiorino, L Br-J-Cancer. 1998 April; 77(7): 1149-54 0007-0920

- **Gastric cancer in Iceland.**
  Author(s): Iceland Genomics Corporation, Snorrabraut 60, 105 Reykjavik, Iceland.
  Source: Imsland, A K Eldon, B J Arinbjarnarson, S Magnusson, J Gastric-Cancer. 2002; 5(1): 51-4 1436-3291

- **Gastric cancer mortality in the spouses of patients who died from gastric cancer.**
  Author(s): Unit of Epidemiology and Medical Statistics, Istituto Oncologico Romagnolo, Forli, Italy. i.o.r@fo.nettuno.it
  Source: Nanni, Oriana Zoffoli, Giovanna Scarpi, Emanuela Bucchi, Lauro Lauriola, Paolo Cislaghi, Cesare Amadori, Dino Int-J-Epidemiol. 2002 April; 31(2): 468-72 0300-5771

- **Gastric cancer, diet, and nitrate exposure.**
  Source: Forman, D. Brit-Med-J. London : British Medical Association. February 28, 1987. volume 294 (6571) page 528-529. 0267-0623

- **Helicobacter pylori infection on the risk of stomach cancer and chronic atrophic gastritis.**
  Author(s): Department of Epidemiology, School of Public Health, University of California, Los Angeles 90095-1772, USA. zfzhang@ucla.edu
  Source: Zhang, Z F Kurtz, R C Klimstra, D S Yu, G P Sun, M Harlap, S Marshall, J R Cancer-Detect-Prevolume 1999; 23(5): 357-67 0361-090X

- **How does H. pylori infection cause gastric cancer?**
  Author(s): University Department of Medicine & Therapeutics, Western Infirmary, Glasgow, Scotland, UK. K.E.L.McColl@clinmed.gla.ac.uk
  Source: McColl, K E El OMarch, E Keio-J-Med. 2002 December; 51 Suppl 2: 53-6 0022-9717

- **Influence of L-methionine-deprived total parenteral nutrition with 5-fluorouracil on gastric cancer and host metabolism.**
  Author(s): Department of Surgery, Affiliated Railway Hospital, Tongji University, Shanghai 200072, China. xhawbin@online.sh.cn
  Source: Xiao, H B Cao, W X Yin, H R Lin, Y Z Ye, S H World-J-Gastroenterol. 2001 October; 7(5): 698-701 1007-9327

- **Intake of specific carotenoids and flavonoids and the risk of gastric cancer in Spain.**
  Author(s): Research Unit of the University Hospital of Canarias, Tenerife, Spain.
  Source: Garcia Closas, R Gonzalez, C A Agudo, A Riboli, E Cancer-Causes-Control. 1999 February; 10(1): 71-5 0957-5243

- **Nasogastric decompression is not necessary in operations for gastric cancer: prospective randomised trial.**
  Author(s): Department of Surgery, Kangbuk Samsung Hospital, Sungkyunkwan University, School of Medicine, Seoul, Korea. chyoo63@naver.com
  Source: Yoo, C H Son, B H Han, W K Pae, W K Eur-J-Surg. 2002; 168(7): 379-83 1102-4151

- **Neoadjuvant chemotherapy with CPT-11 and cisplatin downstages locally advanced gastric cancer.**
  Author(s): Department of Surgery, New York University School of Medicine, New York, New York 10016, USA. elliot.newman@med.nyu.edu
  Source: Newman, Elliot Marcus, Stuart G Potmesil, Milan Sewak, Sanjeev Yee, Herman Sorich, Joan Hayek, Mary Muggia, Franco Hochster, Howard J-Gastrointest-Surg. 2002 Mar-April; 6(2): 212-23; discussion 223 1091-255X

- **Nephrotoxicity of heptaplatin: a randomized comparison with cisplatin in advanced gastric cancer.**
  Author(s): Section of Hematology/Oncology, Department of Internal Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, 138-736, Korea.
  Source: Ahn, J H Kang, Y K Kim, T W Bahng, H Chang, H M Kang, W C Kim, W K Lee, J S Park, J S Cancer-Chemother-Pharmacol. 2002 August; 50(2): 104-10 0344-5704

- **Pemetrexed in gastric cancer: clinical experience and future perspectives.**
  Author(s): Medical Oncology Unit B and Department of Radiology, Istituto Nazionale per lo Studio e la Cura dei Tumori, Milan, Italy.
  Source: Celio, L Buzzoni, R Longarini, R Marchiano, A Bajetta, E Semin-Oncol. 2002 December; 29(6 Suppl 18): 63-8 0093-7754

- **Phase II and pharmacokinetic study of GL331 in previously treated Chinese gastric cancer patients.**
  Author(s): Division of Cancer Research, National Health Research Institutes, Veterans General Hospital-Taipei, Shipai Road, Taipei, Taiwan.
  Source: Liu, Jacqueline Ming Chen, Li Tzong Chao, Yee Li, Anna F Y Wu, Chew Wen Liu, Tai Shun Shiah, Her Shiong Chang, Jang Yang Chen, Jong Dong Wu, Hsiao Wei Lin, Wei Chun Lan, Chieh Whang Peng, Jacqueline Cancer-Chemother-Pharmacol. 2002 May; 49(5): 425-8 0344-5704

- **Phase II study of a combination of irinotecan and cisplatin against metastatic gastric cancer.**
  Author(s): Department of Gastrointestinal Oncology and Gastroenterology, National Cancer Center Hospital East, Kashiwa, Chiba, Japan.
  Source: Boku, N Ohtsu, A Shimada, Y Shirao, K Seki, S Saito, H Sakata, Y Hyodo, I J-Clin-Oncol. 1999 January; 17(1): 319-23 0732-183X

- **Phase II study of oxaliplatin, fluorouracil, and folinic acid in locally advanced or metastatic gastric cancer patients.**
  Author(s): Service d' Oncologie-Medecine Interne, Hopital Saint-Antoine, Paris, France. christophe.louvet@sat.ap-hop-paris.fr
  Source: Louvet, C Andre, T Tigaud, J M Gamelin, E Douillard, J Y Brunet, R Francois, E Jacob, J H Levoir, D Taamma, A Rougier, P Cvitkovic, E de Gramont, A J-Clin-Oncol. 2002 December 1; 20(23): 4543-8 0732-183X

- **Phase II study of sequential high-dose methotrexate and fluorouracil combined with doxorubicin as a neoadjuvant chemotherapy for scirrhous gastric cancer.**
  Author(s): Department of Surgery, National Cancer Center Hospital East, Kashiwa, Chiba, Japan.
  Source: Takahashi, S Kinoshita, T Konishi, M Nakagouri, T Inoue, K Ono, M Sugitou, M Ohtsu, A Boku, N Yoshida, S Gastric-Cancer. 2001; 4(4): 192-7 1436-3291

- **Phase II study of the modified regimen of etoposide, leucovorin and 5-fluorouracil for patients with advanced gastric cancer.**
  Author(s): Department of Medicine, Veterans General Hospital-Taipei, Taiwan. tjchiou@vghtpe.gov.tw
  Source: Chiou, T J Tung, S L Hsieh, R K Wang, W S Yen, C C Fan, F S Liu, J H Chen, P M Jpn-J-Clin-Oncol. 1998 May; 28(5): 318-22 0368-2811

- **Plant foods and risk of gastric cancer: a case-control study in Uruguay.**
  Author(s): Registro Nacional de Cancer, Montevideo, Avda. Brasil 3080 dep. 402, Montevideo, Uruguay.
  Source: De Stefani, E Correa, P Boffetta, P Ronco, A Brennan, P Deneo Pellegrini, H Mendilaharsu, M Eur-J-Cancer-Prevolume 2001 August; 10(4): 357-64 0959-8278

- **Protective effect of allium vegetables against both esophageal and stomach cancer: a simultaneous case-referent study of a high-epidemic area in Jiangsu Province, China.**
  Author(s): Division of Epidemiology, Cancer Institute of Jiangsu Province, Nanjing, China. ttakezak@aichi-cc.pref.aichi.jp
  Source: Gao, C M Takezaki, T Ding, J H Li, M S Tajima, K Jpn-J-Cancer-Res. 1999 June; 90(6): 614-21 0910-5050

- **Reduced thiamine (vitamin B1) levels following gastrectomy for gastric cancer.**
  Author(s): Department of Surgery, Rinku General Medical Center, Izumisano Municipal Hospital, 2-23 Rinku-Orai-Kita, Izumisano, Osaka 598-8577, Japan.
  Source: Iwase, K Higaki, J Yoon, H E Mikata, S Miyazaki, M Kamiike, W Gastric-Cancer. 2002; 5(2): 77-82 1436-3291

- **Rhubarb use in patients treated with Kampo medicines--a risk for gastric cancer?**
  Author(s): Department of Japanese Oriental (Kampo) Medicine, Faculty of Medicine, Toyama Medical and Pharmaceutical University, 2630 Sugitani, Toyama 930-0194, Japan. nmantani@showa.gunma-u.ac.jp
  Source: Mantani, Naoki Sekiya, Nobuyasu Sakai, Shinya Kogure, Toshiaki Shimada, Yutaka Terasawa, Katsutoshi Yakugaku-Zasshi. 2002 June; 122(6): 403-5 0031-6903

- **Risk factors for stomach cancer in Brazil (I): a case-control study among non-Japanese Brazilians in Sao Paulo.**
  Author(s): Research Center, Hospital do Cancer A.C. Camargo, Sao Paulo, Brazil.
  Source: Nishimoto, I N Hamada, G S Kowalski, L P Rodrigues, J G Iriya, K Sasazuki, S Hanaoka, T Tsugane, S Jpn-J-Clin-Oncol. 2002 August; 32(8): 277-83 0368-2811

- **Roles of Fas signaling pathway in vitamin E succinate-induced apoptosis in human gastric cancer SGC-7901 cells.**
  Author(s): Department of Nutrition and Food Hygiene, Public Health School, Harbin Medical University, Heilongjiang Province, China. wukun@public.hr.hl.cn
  Source: Wu, K Li, Y Zhao, Y Shan, Y J Xia, W Yu, W P Zhao, L World-J-Gastroenterol. 2002 December; 8(6): 982-6 1007-9327

- **RRR-alpha-tocopheryl succinate inhibits human gastric cancer SGC-7901 cell growth by inducing apoptosis and DNA synthesis arrest.**
  Author(s): Department of Nutrition and Food Hygiene, Public Health School, Harbin Medical University, Harbin 150001, Heilongjiang Province,China. wukun@public.hr.hl.cn
  Source: Wu, Kun Zhao, Yan Liu, Bai He Li, Yao Liu, Fang Guo, Jian Yu, Wei Ping World-J-Gastroenterol. 2002 February; 8(1): 26-30 1007-9327

- **Selective induction of apoptosis by ar-turmerone isolated from turmeric (Curcuma longa L) in two human leukemia cell lines, but not in human stomach cancer cell line.**
  Author(s): Faculty of Bioresources, Mie University, Tsu-city, Mie 514-0001, Japan.
  Source: Aratanechemuge, Y Komiya, T Moteki, H Katsuzaki, H Imai, K Hibasami, H Int-J-Mol-Med. 2002 May; 9(5): 481-4 1107-3756

- **Synergistic interaction between Helicobacter pylori gastritis and diet in gastric cancer.**
  Author(s): Cancer Information and Epidemiology Division, National Cancer Center Research Institute, Tokyo, Japan. nyamaguc@ncc.go.jp
  Source: Yamaguchi, N Kakizoe, T Lancet-Oncol. 2001 February; 2(2): 88-94 1470-2045

- **The effect pathway of retinoic acid through regulation of retinoic acid receptor alpha in gastric cancer cells.**
  Author(s): Key Laboratory of Ministry of Education for Cell Biology and Tumor Cell Engineering, The School of Life Sciences, Xiamen University, Xiamen 361005, Fujian Province, China.
  Source: Liu, S Wu, Q Chen, Z M Su, W J World-J-Gastroenterol. 2001 October; 7(5): 662-6 1007-9327

- **The effects of vitamin E succinate on the expression of c-jun gene and protein in human gastric cancer SGC-7901 cells.**
  Author(s): Department of Nutrition and Food Hygiene, Public Health School, Harbin Medical University, Harbin 150001, Heilongjiang Province, China.
  Source: Zhao, Y Wu, K Xia, W Shan, Y J Wu, L J Yu, W P World-J-Gastroenterol. 2002 October; 8(5): 782-6 1007-9327

- **The epidemiology of gastric cancer.**
  Author(s): Columbia University Mailman School of Public Health, Department of Epidemiology, New York, NY 10032, USA.
  Source: Terry, Mary Beth Gaudet, Mia M Gammon, Marilie D Semin-Radiat-Oncol. 2002 April; 12(2): 111-27 1053-4296

- **Translocation (1;11)(q23;p15), a novel simple variant of translocation (7;11)(p15;p15), in a patient with AML (M2) accompanied by non-Hodgkin lymphoma and gastric cancer.**
  Author(s): Third Department of Internal Medicine, Akita University School of Medicine, Japan.
  Source: Hatano, Y Miura, I Kume, M Miura, A B Cancer-Genet-Cytogenet. 2000 February; 117(1): 19-23 0165-4608

- **Tumor markers CEA, CA19-9 and CA125 in monitoring of response to systemic chemotherapy in patients with advanced gastric cancer.**
  Author(s): Department of Medicine, Cancer Institute Hospital, Tokyo, Japan. tyamao@jfcr.or.jp
  Source: Yamao, T Kai, S Kazami, A Koizumi, K Handa, T Takemoto, N Maruyama, M Jpn-J-Clin-Oncol. 1999 November; 29(11): 550-5 0368-2811
- **Unusual survival for more than 2 years with peritoneal metastases of gastric cancer.**
  Author(s): Department of Gastrointestinal Surgery, Kanagawa Cancer Center, 1-1-2 Nakao, Asahi-ku, Yokohama 241-0815, Japan.
  Source: Kobayashi, O Konishi, K Kanari, M Cho, H Yoshikawa, T Tsuburaya, A Sairenji, M Motohashi, H Gastric-Cancer. 2002; 5(1): 47-50 1436-3291
- **Vitamin C concentration in gastric juice in patients with precancerous lesions of the stomach and gastric cancer.**
  Author(s): Department of Gastroenterology, National Food and Nutrition Institute, ul. Kondratowicza 8, 03-242 Warsaw, Poland.
  Source: Dabrowska Ufniarz, Elzbieta Dzieniszewski, January Jarosz, Miroslaw Wartanowicz, Maria Med-Sci-Monit. 2002 February; 8(2): CR96-103 1234-1010
- **Weekly etoposide, epirubicin, cisplatin, 5-fluorouracil and leucovorin: an effective chemotherapy in advanced gastric cancer.**
  Author(s): Cancer Center, Veterans General Hospital-Taipei, National Yang-Ming University, Taiwan.
  Source: Chi, K H Chao, Y Chan, W K Lo, S S Chen, S Y Yen, S H Chen, K Y Wu, C W Lee, S D Lui, W Y Br-J-Cancer. 1998 June; 77(11): 1984-8 0007-0920
- **Weekly high-dose 5-fluorouracil (5-FU), leucovorin (LV) and bimonthly cisplatin in patients with advanced gastric cancer.**
  Author(s): Department of Internal Medicine, Chang Gung Memorial Hospital, Taipei, Taiwan. yclinof@adm.cgmh.org.tw
  Source: Lin Y, C Chen J, S Wang C, H Wang H, M Chang H, K Liaul C, T Yang T, S Liaw C, C Liu H, E Jpn-J-Clin-Oncol. 2001 December; 31(12): 605-9 0368-2811

Federal Resources on Nutrition

In addition to the IBIDS, the United States Department of Health and Human Services (HHS) and the United States Department of Agriculture (USDA) provide many sources of information on general nutrition and health. Recommended resources include:

- healthfinder®, HHS's gateway to health information, including diet and nutrition: **http://www.healthfinder.gov/scripts/SearchContext.asp?topic=238&page=0**
- The United States Department of Agriculture's Web site dedicated to nutrition information: **www.nutrition.gov**
- The Food and Drug Administration's Web site for federal food safety information: **www.foodsafety.gov**
- The National Action Plan on Overweight and Obesity sponsored by the United States Surgeon General: **http://www.surgeongeneral.gov/topics/obesity/**
- The Center for Food Safety and Applied Nutrition has an Internet site sponsored by the Food and Drug Administration and the Department of Health and Human Services: **http://vm.cfsan.fda.gov/**

- Center for Nutrition Policy and Promotion sponsored by the United States Department of Agriculture: **http://www.usda.gov/cnpp/**
- Food and Nutrition Information Center, National Agricultural Library sponsored by the United States Department of Agriculture: **http://www.nal.usda.gov/fnic/**
- Food and Nutrition Service sponsored by the United States Department of Agriculture: **http://www.fns.usda.gov/fns/**

Additional Web Resources

A number of additional Web sites offer encyclopedic information covering food and nutrition. The following is a representative sample:

- AOL: **http://search.aol.com/cat.adp?id=174&layer=&from=subcats**
- Family Village: **http://www.familyvillage.wisc.edu/med_nutrition.html**
- Google: **http://directory.google.com/Top/Health/Nutrition/**
- Healthnotes: **http://www.healthnotes.com/**
- Open Directory Project: **http://dmoz.org/Health/Nutrition/**
- Yahoo.com: **http://dir.yahoo.com/Health/Nutrition/**
- WebMD®Health: **http://my.webmd.com/nutrition**
- WholeHealthMD.com: **http://www.wholehealthmd.com/reflib/0,1529,00.html**

The following is a specific Web list relating to stomach cancer; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **Vitamins**

  Vitamin C
  Source: Prima Communications, Inc.www.personalhealthzone.com

- **Minerals**

  Chromium
  Source: Integrative Medicine Communications; www.drkoop.com

  Cisplatin
  Source: Healthnotes, Inc.; www.healthnotes.com

- **Food and Diet**

  Garlic
  Alternative names: Allium sativum
  Source: Healthnotes, Inc.; www.healthnotes.com

Garlic
Alternative names: Allium sativum
Source: Integrative Medicine Communications; www.drkoop.com

Low-Salt Diet
Source: Healthnotes, Inc.; www.healthnotes.com

CHAPTER 3. ALTERNATIVE MEDICINE AND STOMACH CANCER

Overview

In this chapter, we will begin by introducing you to official information sources on complementary and alternative medicine (CAM) relating to stomach cancer. At the conclusion of this chapter, we will provide additional sources.

National Center for Complementary and Alternative Medicine

The National Center for Complementary and Alternative Medicine (NCCAM) of the National Institutes of Health (**http://nccam.nih.gov/**) has created a link to the National Library of Medicine's databases to facilitate research for articles that specifically relate to stomach cancer and complementary medicine. To search the database, go to the following Web site: **http://www.nlm.nih.gov/nccam/camonpubmed.html**. Select "CAM on PubMed." Enter "stomach cancer" (or synonyms) into the search box. Click "Go." The following references provide information on particular aspects of complementary and alternative medicine that are related to stomach cancer:

- **A meta-analysis of soyfoods and risk of stomach cancer: the problem of potential confounders.**
  Author(s): Wu AH, Yang D, Pike MC.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2000 October; 9(10): 1051-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11045787&dopt=Abstract

- **A phase II clinical trial to evaluate the effect of paclitaxel in patients with ascites caused by advanced or recurrent gastric carcinoma: a new concept of clinical benefit response for non-measurable type of gastric cancer.**
  Author(s): Sakamoto J, Morita S, Yumiba T, Narahara H, Kinoshita K, Nakane Y, Imamoto H, Shiozaki H; Ascitic Gastric Cancer Study Group of the Japan South West Oncology Group.

Source: Japanese Journal of Clinical Oncology. 2003 May; 33(5): 238-40.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12865468&dopt=Abstract

- **A prospective cohort study of soy product intake and stomach cancer death.**
  Author(s): Nagata C, Takatsuka N, Kawakami N, Shimizu H.
  Source: British Journal of Cancer. 2002 July 1; 87(1): 31-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12085252&dopt=Abstract

- **A prospective study of stomach cancer death in relation to green tea consumption in Japan.**
  Author(s): Hoshiyama Y, Kawaguchi T, Miura Y, Mizoue T, Tokui N, Yatsuya H, Sakata K, Kondo T, Kikuchi S, Toyoshima H, Hayakawa N, Tamakoshi A, Ohno Y, Yoshimura T; Japan Collaborative Cohort Study Group.
  Source: British Journal of Cancer. 2002 July 29; 87(3): 309-13.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12177800&dopt=Abstract

- **Activity-guided fractionation of green tea extract with antiproliferative activity against human stomach cancer cells.**
  Author(s): Kinjo J, Nagao T, Tanaka T, Nonaka G, Okawa M, Nohara T, Okabe H.
  Source: Biological & Pharmaceutical Bulletin. 2002 September; 25(9): 1238-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12230128&dopt=Abstract

- **Black tea theaflavins induce programmed cell death in cultured human stomach cancer cells.**
  Author(s): Hibasami H, Komiya T, Achiwa Y, Ohnishi K, Kojima T, Nakanishi K, Sugimoto Y, Hasegawa M, Akatsuka R, Hara Y.
  Source: International Journal of Molecular Medicine. 1998 April; 1(4): 725-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9852288&dopt=Abstract

- **Current treatments and future perspectives in colorectal and gastric cancer.**
  Author(s): Wilke HJ, Van Cutsem E.
  Source: Annals of Oncology : Official Journal of the European Society for Medical Oncology / Esmo. 2003; 14 Suppl 2: Ii49-55. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12810459&dopt=Abstract

- **Diet and stomach cancer: a case-control study in South India.**
  Author(s): Mathew A, Gangadharan P, Varghese C, Nair MK.
  Source: European Journal of Cancer Prevention : the Official Journal of the European Cancer Prevention Organisation (Ecp). 2000 April; 9(2): 89-97.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10830575&dopt=Abstract

- **Dietary protective and risk factors for esophageal and stomach cancers in a low-epidemic area for stomach cancer in Jiangsu Province, China: comparison with those**

in a high-epidemic area.
Author(s): Takezaki T, Gao CM, Wu JZ, Ding JH, Liu YT, Zhang Y, Li SP, Su P, Liu TK, Tajima K.
Source: Japanese Journal of Cancer Research : Gann. 2001 November; 92(11): 1157-65.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11714439&dopt=Abstract

- **Docetaxel and cisplatin in patients with advanced gastric cancer: results of Japanese phase I/II study.**
  Author(s): Saitoh S, Sakata Y.
  Source: Gastric Cancer : Official Journal of the International Gastric Cancer Association and the Japanese Gastric Cancer Association. 2002; 5 Suppl 1: 23-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12772883&dopt=Abstract

- **Docetaxel-based chemotherapy in the treatment of gastric cancer.**
  Author(s): Roth AD, Ajani J.
  Source: Annals of Oncology : Official Journal of the European Society for Medical Oncology / Esmo. 2003; 14 Suppl 2: Ii41-4. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12810457&dopt=Abstract

- **European experience of docetaxel and cisplatin in advanced gastric cancer.**
  Author(s): Roth AD.
  Source: Gastric Cancer : Official Journal of the International Gastric Cancer Association and the Japanese Gastric Cancer Association. 2002; 5 Suppl 1: 27-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12772884&dopt=Abstract

- **Garlic consumption and cancer prevention: meta-analyses of colorectal and stomach cancers.**
  Author(s): Fleischauer AT, Poole C, Arab L.
  Source: The American Journal of Clinical Nutrition. 2000 October; 72(4): 1047-52.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11010950&dopt=Abstract

- **Individualizing therapy in gastric cancer.**
  Author(s): Sendler A, Siewert JR.
  Source: Expert Rev Anticancer Ther. 2003 August; 3(4): 457-70. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12934658&dopt=Abstract

- **Induction of apoptosis by Acanthopanax senticosus HARMS and its component, sesamin in human stomach cancer KATO III cells.**
  Author(s): Hibasami H, Fujikawa T, Takeda H, Nishibe S, Satoh T, Fujisawa T, Nakashima K.
  Source: Oncol Rep. 2000 November-December; 7(6): 1213-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11032916&dopt=Abstract

- **Interaction between cytochrome P-450 2E1 polymorphisms and environmental factors with risk of esophageal and stomach cancers in Chinese.**
  Author(s): Gao C, Takezaki T, Wu J, Li Z, Wang J, Ding J, Liu Y, Hu X, Xu T, Tajima K, Sugimura H.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2002 January; 11(1): 29-34.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11815398&dopt=Abstract

- **Irinotecan in the treatment of gastric cancer.**
  Author(s): Bugat R.
  Source: Annals of Oncology : Official Journal of the European Society for Medical Oncology / Esmo. 2003; 14 Suppl 2: Ii37-40. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12810456&dopt=Abstract

- **Irinotecan is active in chemonaive patients with metastatic gastric cancer: a phase II multicentric trial.**
  Author(s): Kohne CH, Catane R, Klein B, Ducreux M, Thuss-Patience P, Niederle N, Gips M, Preusser P, Knuth A, Clemens M, Bugat R, Figer I, Shani A, Fages B, Di Betta D, Jacques C, Wilke HJ.
  Source: British Journal of Cancer. 2003 September 15; 89(6): 997-1001.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12966415&dopt=Abstract

- **Measurement of fecal pyruvate kinase type M2 (tumor M2-PK) concentrations in patients with gastric cancer, colorectal cancer, colorectal adenomas and controls.**
  Author(s): Hardt PD, Toepler M, Ngoumou B, Rupp J, Kloer HU.
  Source: Anticancer Res. 2003 March-April; 23(2A): 851-3.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12820312&dopt=Abstract

- **Mechanistic aspects of green tea as a cancer preventive: effect of components on human stomach cancer cell lines.**
  Author(s): Okabe S, Ochiai Y, Aida M, Park K, Kim SJ, Nomura T, Suganuma M, Fujiki H.
  Source: Japanese Journal of Cancer Research : Gann. 1999 July; 90(7): 733-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10470285&dopt=Abstract

- **Mitomycin C (MMC) with weekly 24-hour infusions of high-dose 5-fluorouracil and leucovorin in patients with advanced gastric cancer.**
  Author(s): Chen JS, Lin YC, Liau CT, Wang CH, Liaw CC.
  Source: Chang Gung Med J. 2003 June; 26(6): 433-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12956290&dopt=Abstract

- **No association between green tea and the risk of gastric cancer: pooled analysis of two prospective studies in Japan.**

Author(s): Koizumi Y, Tsubono Y, Nakaya N, Nishino Y, Shibuya D, Matsuoka H, Tsuji I.
Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2003 May; 12(5): 472-3.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12750246&dopt=Abstract

- **No cross-resistance of taxotere and taxol to conventional chemotherapeutic agents against gastric cancers as detected by MTT assay.**
  Author(s): Maeda S, Saikawa Y, Kubota T, Aoki M, Otani Y, Furukawa T, Watanabe M, Kumai K, Kitajima M.
  Source: Anticancer Res. 2003 July-August; 23(4): 3147-50.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12926047&dopt=Abstract

- **Oolong tea polyphenol extract induces apoptosis in human stomach cancer cells.**
  Author(s): Hibasami H, Jin ZX, Hasegawa M, Urakawa K, Nakagawa M, Ishii Y, Yoshioka K.
  Source: Anticancer Res. 2000 November-December; 20(6B): 4403-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11205279&dopt=Abstract

- **Phase II study of irinotecan and mitomycin C in 5-fluorouracil-pretreated patients with advanced colorectal and gastric cancer.**
  Author(s): Bamias A, Papamichael D, Syrigos K, Pavlidis N.
  Source: Journal of Chemotherapy (Florence, Italy). 2003 June; 15(3): 275-81.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12868555&dopt=Abstract

- **Plant sterols and risk of stomach cancer: a case-control study in Uruguay.**
  Author(s): De Stefani E, Boffetta P, Ronco AL, Brennan P, Deneo-Pellegrini H, Carzoglio JC, Mendilaharsu M.
  Source: Nutrition and Cancer. 2000; 37(2): 140-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11142085&dopt=Abstract

- **Polyozellus multiplex, a Korean wild mushroom, as a potent chemopreventive agent against stomach cancer.**
  Author(s): Lee IS, Nishikawa A.
  Source: Life Sciences. 2003 November 7; 73(25): 3225-34.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=14561527&dopt=Abstract

- **Prospective study of educational background and stomach cancer in Japan.**
  Author(s): Fujino Y, Tamakoshi A, Ohno Y, Mizoue T, Tokui N, Yoshimura T; JACC Study Group. Japan Collaborative Cohort Study for Evaluation of Cancer Risk.

Source: Preventive Medicine. 2002 August; 35(2): 121-7.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12200096&dopt=Abstract

- **Prospective study of serum vitamin E levels and esophageal and gastric cancers.**
Author(s): Taylor PR, Qiao YL, Abnet CC, Dawsey SM, Yang CS, Gunter EW, Wang W, Blot WJ, Dong ZW, Mark SD.
Source: Journal of the National Cancer Institute. 2003 September 17; 95(18): 1414-6.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=13130117&dopt=Abstract

- **Protective effect of allium vegetables against both esophageal and stomach cancer: a simultaneous case-referent study of a high-epidemic area in Jiangsu Province, China.**
Author(s): Gao CM, Takezaki T, Ding JH, Li MS, Tajima K.
Source: Japanese Journal of Cancer Research : Gann. 1999 June; 90(6): 614-21.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10429652&dopt=Abstract

- **Protective effect of green tea on the risks of chronic gastritis and stomach cancer.**
Author(s): Setiawan VW, Zhang ZF, Yu GP, Lu QY, Li YL, Lu ML, Wang MR, Guo CH, Yu SZ, Kurtz RC, Hsieh CC.
Source: International Journal of Cancer. Journal International Du Cancer. 2001 May 15; 92(4): 600-4.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11304697&dopt=Abstract

- **Risk of stomach cancer in relation to consumption of cigarettes, alcohol, tea and coffee in Warsaw, Poland.**
Author(s): Chow WH, Swanson CA, Lissowska J, Groves FD, Sobin LH, Nasierowska-Guttmejer A, Radziszewski J, Regula J, Hsing AW, Jagannatha S, Zatonski W, Blot WJ.
Source: International Journal of Cancer. Journal International Du Cancer. 1999 June 11; 81(6): 871-6.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10362132&dopt=Abstract

- **Selective induction of apoptosis by ar-turmerone isolated from turmeric (Curcuma longa L) in two human leukemia cell lines, but not in human stomach cancer cell line.**
Author(s): Aratanechemuge Y, Komiya T, Moteki H, Katsuzaki H, Imai K, Hibasami H.
Source: International Journal of Molecular Medicine. 2002 May; 9(5): 481-4.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11956652&dopt=Abstract

- **Single-agent irinotecan as second-line treatment for advanced gastric cancer.**
Author(s): Kanat O, Evrensel T, Manavoglu O, Demiray M, Kurt E, Gonullu G, Kiyici M, Arslan M.
Source: Tumori. 2003 July-August; 89(4): 405-7.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=14606644&dopt=Abstract

- **Specific induction of apoptosis by 1,8-cineole in two human leukemia cell lines, but not a in human stomach cancer cell line.**
  Author(s): Moteki H, Hibasami H, Yamada Y, Katsuzaki H, Imai K, Komiya T.
  Source: Oncol Rep. 2002 July-August; 9(4): 757-60.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12066204&dopt=Abstract

- **Src/ERK but not phospholipase D is involved in keratinocyte growth factor-stimulated secretion of matrix metalloprotease-9 and urokinase-type plasminogen activator in SNU-16 human stomach cancer cell.**
  Author(s): Shin EY, Ma EK, Kim CK, Kwak SJ, Kim EG.
  Source: Journal of Cancer Research and Clinical Oncology. 2002 November; 128(11): 596-602. Epub 2002 October 23.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12458339&dopt=Abstract

- **Vitamin C, vitamin E, and multivitamin supplement use and stomach cancer mortality in the Cancer Prevention Study II cohort.**
  Author(s): Jacobs EJ, Connell CJ, McCullough ML, Chao A, Jonas CR, Rodriguez C, Calle EE, Thun MJ.
  Source: Cancer Epidemiology, Biomarkers & Prevention : a Publication of the American Association for Cancer Research, Cosponsored by the American Society of Preventive Oncology. 2002 January; 11(1): 35-41.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11815399&dopt=Abstract

Additional Web Resources

A number of additional Web sites offer encyclopedic information covering CAM and related topics. The following is a representative sample:

- Alternative Medicine Foundation, Inc.: **http://www.herbmed.org/**
- AOL: **http://search.aol.com/cat.adp?id=169&layer=&from=subcats**
- Chinese Medicine: **http://www.newcenturynutrition.com/**
- drkoop.com®: **http://www.drkoop.com/InteractiveMedicine/IndexC.html**
- Family Village: **http://www.familyvillage.wisc.edu/med_altn.htm**
- Google: **http://directory.google.com/Top/Health/Alternative/**
- Healthnotes: **http://www.healthnotes.com/**
- MedWebPlus: **http://medwebplus.com/subject/Alternative_and_Complementary_Medicine**
- Open Directory Project: **http://dmoz.org/Health/Alternative/**
- HealthGate: **http://www.tnp.com/**
- WebMD®Health: **http://my.webmd.com/drugs_and_herbs**
- WholeHealthMD.com: **http://www.wholehealthmd.com/reflib/0,1529,00.html**

- Yahoo.com: **http://dir.yahoo.com/Health/Alternative_Medicine/**

The following is a specific Web list relating to stomach cancer; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **General Overview**

  Breast Cancer
  Source: Healthnotes, Inc.; www.healthnotes.com

  Cancer Prevention (Reducing the Risk)
  Source: Prima Communications, Inc.www.personalhealthzone.com

  Cancer Prevention and Diet
  Source: Healthnotes, Inc.; www.healthnotes.com

  Colon Cancer
  Source: Healthnotes, Inc.; www.healthnotes.com

  Colorectal Cancer
  Source: Integrative Medicine Communications; www.drkoop.com

  Gastritis
  Source: Healthnotes, Inc.; www.healthnotes.com

  Gastritis
  Source: Integrative Medicine Communications; www.drkoop.com

  Lung Cancer
  Source: Healthnotes, Inc.; www.healthnotes.com

  Peptic Ulcer
  Source: Healthnotes, Inc.; www.healthnotes.com

  Peptic Ulcer
  Source: Integrative Medicine Communications; www.drkoop.com

  Prostate Cancer
  Source: Healthnotes, Inc.; www.healthnotes.com

  Stomach Inflammation
  Source: Integrative Medicine Communications; www.drkoop.com

- **Herbs and Supplements**

  Allium Sativum
  Source: Integrative Medicine Communications; www.drkoop.com

Apium Graveolens
Source: Integrative Medicine Communications; www.drkoop.com

Beta-carotene
Source: Prima Communications, Inc.www.personalhealthzone.com

Borago
Alternative names: Borage; Borago officinalis
Source: Alternative Medicine Foundation, Inc.; www.amfoundation.org

Cayenne
Alternative names: Capsicum annuum, Capsicum frutescens
Source: Healthnotes, Inc.; www.healthnotes.com

Celery Seed
Alternative names: Apium graveolens
Source: Integrative Medicine Communications; www.drkoop.com

Fiber
Source: Integrative Medicine Communications; www.drkoop.com

Ginseng
Source: Prima Communications, Inc.www.personalhealthzone.com

Glutathione
Source: Healthnotes, Inc.; www.healthnotes.com

Green Tea
Alternative names: Camellia sinensis
Source: Healthnotes, Inc.; www.healthnotes.com

Green Tea
Source: Prima Communications, Inc.www.personalhealthzone.com

Lepidium Meyenii1
Alternative names: Maca; Lepidium meyenii Walp.
Source: Alternative Medicine Foundation, Inc.; www.amfoundation.org

Lycopene
Source: Healthnotes, Inc.; www.healthnotes.com

Lycopene
Source: WholeHealthMD.com, LLC.; www.wholehealthmd.com
Hyperlink:
http://www.wholehealthmd.com/refshelf/substances_view/0,1525,803,00.html

Ocimum
Alternative names: Basil, Albahaca; Ocimum basilicum
Source: Alternative Medicine Foundation, Inc.; www.amfoundation.org

Panax
Alternative names: Ginseng; Panax ginseng
Source: Alternative Medicine Foundation, Inc.; www.amfoundation.org

Shiitake
Alternative names: Lentinus edodes
Source: Healthnotes, Inc.; www.healthnotes.com

General References

A good place to find general background information on CAM is the National Library of Medicine. It has prepared within the MEDLINEplus system an information topic page dedicated to complementary and alternative medicine. To access this page, go to the MEDLINEplus site at **http://www.nlm.nih.gov/medlineplus/alternativemedicine.html**. This Web site provides a general overview of various topics and can lead to a number of general sources.

CHAPTER 4. DISSERTATIONS ON STOMACH CANCER

Overview

In this chapter, we will give you a bibliography on recent dissertations relating to stomach cancer. We will also provide you with information on how to use the Internet to stay current on dissertations. **IMPORTANT NOTE:** When following the search strategy described below, you may discover non-medical dissertations that use the generic term "stomach cancer" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on stomach cancer, we have not necessarily excluded non-medical dissertations in this bibliography.

Dissertations on Stomach Cancer

ProQuest Digital Dissertations, the largest archive of academic dissertations available, is located at the following Web address: **http://wwwlib.umi.com/dissertations**. From this archive, we have compiled the following list covering dissertations devoted to stomach cancer. You will see that the information provided includes the dissertation's title, its author, and the institution with which the author is associated. The following covers recent dissertations found when using this search procedure:

- **Allium Vegetables, Green Tea, Genetic Susceptibilities, Cox-2 and Stomach Cancer** by Setiawan, Veronica Wendy; PhD from University of California, Los Angeles, 2002, 174 pages
  http://wwwlib.umi.com/dissertations/fullcit/3045618

Keeping Current

Ask the medical librarian at your library if it has full and unlimited access to the *ProQuest Digital Dissertations* database. From the library, you should be able to do more complete searches via **http://wwwlib.umi.com/dissertations**.

CHAPTER 5. CLINICAL TRIALS AND STOMACH CANCER

Overview

In this chapter, we will show you how to keep informed of the latest clinical trials concerning stomach cancer.

Recent Trials on Stomach Cancer

The following is a list of recent trials dedicated to stomach cancer.[8] Further information on a trial is available at the Web site indicated.

- **Antineoplaston Therapy in Treating Patients With Stomach Cancer**

  Condition(s): stage III gastric cancer; stage IV gastric cancer; recurrent gastric cancer; adenocarcinoma of the stomach

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Burzynski Research Institute

  Purpose - Excerpt: RATIONALE: Antineoplastons are naturally occurring substances found in urine. Antineoplastons may inhibit the growth of cancer cells. PURPOSE: Phase II trial to study the effectiveness of antineoplaston therapy in treating patients with stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00003524

- **Bortezomib With or Without Irinotecan in Treating Patients With Cancer of the Gastroesophageal Junction or Stomach**

  Condition(s): adenocarcinoma of the stomach; recurrent gastric cancer; stage III gastric cancer; stage IV gastric cancer

  Study Status: This study is currently recruiting patients.

[8] These are listed at **www.ClinicalTrials.gov**.

Sponsor(s): Cornell University Medical College; National Cancer Institute (NCI)

Purpose - Excerpt: RATIONALE: Bortezomib may stop the growth of tumor cells by blocking the enzymes necessary for tumor cell growth. Drugs used in chemotherapy such as irinotecan use different ways to stop tumor cells from dividing so they stop growing or die. Combining bortezomib with irinotecan may kill more tumor cells. PURPOSE: Phase II trial to study the effectiveness of bortezomib with or without irinotecan in treating patients who have unresectable cancer of the gastroesophageal junction or stomach.

Phase(s): Phase II

Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00061932

- **Bryostatin 1 Plus Paclitaxel in Treating Patients With Locally Advanced or Metastatic Esophageal Cancer or Stomach Cancer**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Memorial Sloan-Kettering Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Combining more than one drug may kill more tumor cells. PURPOSE: Phase II trial to study the effectiveness of bryostatin 1 and paclitaxel in treating patients who have locally advanced or metastatic esophageal cancer or stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00005599

- **Chemotherapy and Radiation Therapy After Surgery in Treating Patients With Stomach or Esophageal Cancer**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Cancer and Leukemia Group B; National Cancer Institute (NCI); North Central Cancer Treatment Group; Eastern Cooperative Oncology Group

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Radiation therapy uses high-energy x-rays to damage tumor cells. Combining chemotherapy with radiation therapy after surgery may kill any remaining tumor cells following surgery. It is not yet known which chemotherapy and radiation therapy regimen is more effective in treating stomach or esophageal cancer. PURPOSE: Randomized phase III trial to compare two different chemotherapy and radiation therapy regimens in treating patients who have undergone surgery for stomach or esophageal cancer.

  Phase(s): Phase III

  Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00052910

- **Chemotherapy and Radiation Therapy in Treating Patients With Stomach Cancer**

  Condition(s): stage I gastric cancer; stage II gastric cancer; stage III gastric cancer; stage IV gastric cancer; adenocarcinoma of the stomach

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Radiation Therapy Oncology Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Radiation therapy uses high-energy x-rays to damage tumor cells. Combining chemotherapy with radiation therapy may kill more tumor cells. PURPOSE: Phase II trial to study the effectiveness of chemotherapy and radiation therapy in treating patients who have stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00003862

- **Chemotherapy and Radiation Therapy With or Without Fluorouracil in Treating Patients With Cancer of the Stomach Who Have Undergone Surgery**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Radiation Therapy Oncology Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy such as cisplatin and paclitaxel use different ways to stop tumor cells from dividing so they stop growing or die. Radiation therapy uses high-energy x-rays to damage tumor cells. Cisplatin and paclitaxel may make the tumor cells more sensitive to radiation therapy and may kill any tumor cells remaining after surgery. PURPOSE: Randomized phase II trial to study the effectiveness of cisplatin, paclitaxel, and radiation therapy with or without fluorouracil in treating patients who have stage IB, stage IIB, or stage IIIB **stomach cancer** that has been removed during surgery.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00011960

- **Combination Chemotherapy and Surgery in Treating Patients With Locally Advanced Stomach Cancer**

  Condition(s): stage II gastric cancer; stage III gastric cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Swiss Institute for Applied Cancer Research

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Combining more than one

chemotherapy drug with surgery may kill more tumor cells. It is not yet known if chemotherapy followed by surgery is more effective than surgery followed by chemotherapy for stomach cancer. PURPOSE: Randomized phase III trial to compare the effectiveness of surgery followed by combination chemotherapy with that of combination chemotherapy followed by surgery in treating patients who have locally advanced stomach cancer.

Phase(s): Phase III

Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00005060

- **Combination Chemotherapy Followed by Surgery in Treating Patients With Stomach Cancer**

  Condition(s): stage I gastric cancer; stage II gastric cancer; stage III gastric cancer; stage IV gastric cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Kaplan Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Combining more than one drug and combining chemotherapy with surgery may kill more tumor cells. PURPOSE: Phase II trial to study the effectiveness of irinotecan and cisplatin followed by surgery, floxuridine, and cisplatin in treating patients who have stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00004103

- **Combination Chemotherapy Plus Radiation Therapy in Treating Patients With Esophageal Cancer**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Memorial Sloan-Kettering Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Radiation therapy uses high-energy x-rays to damage tumor cells. Combining chemotherapy with radiation therapy may kill more tumor cells. PURPOSE: Phase I trial to study the effectiveness of chemotherapy plus radiation therapy in treating patients who have advanced cancer of the esophagus.

  Phase(s): Phase I

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00005638

- **Combination Chemotherapy Plus Radiation Therapy With or Without Fluorouracil in Treating Patients With Cancer of the Esophagus or Stomach**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Radiation Therapy Oncology Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Radiation therapy uses high-energy x-rays to damage tumor cells. Combining chemotherapy and radiation therapy may kill more tumor cells. PURPOSE: Randomized phase II trial to compare the effectiveness of combination chemotherapy plus radiation therapy with and without fluorouracil in treating patients who have cancer of the esophagus or stomach.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00009880

- **Docetaxel and Capecitabine in Treating Patients With Metastatic Cancer of the Stomach or Lower Esophagus**

  Condition(s): adenocarcinoma of the stomach; Adenocarcinoma of the Esophagus; stage IV gastric cancer; recurrent gastric cancer; stage IV esophageal cancer; recurrent esophageal cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): North Central Cancer Treatment Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Combining more than one drug may kill more tumor cells. PURPOSE: Phase II trial to study of the effectiveness of combining docetaxel with capecitabine in treating patients who have metastatic cancer of the stomach or lower esophagus.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00054457

- **Edotecarin and Cisplatin in Treating Patients With Advanced or Metastatic Solid Tumors**

  Condition(s): unspecified adult solid tumor, protocol specific; stage IV esophageal cancer; stage IV gastric cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Memorial Sloan-Kettering Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy, such as edotecarin and cisplatin, use different ways to stop tumor cells from dividing so they stop growing or die. Combining edotecarin with cisplatin may kill more tumor cells. PURPOSE: Phase I trial to study the effectiveness of combining edotecarin with cisplatin in treating patients who have advanced or metastatic solid tumors.

Phase(s): Phase I

Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00072332

- **Erlotinib in Treating Patients With Advanced Esophageal Cancer or Stomach Cancer**

  Condition(s): Adenocarcinoma of the Esophagus; recurrent esophageal cancer; squamous cell carcinoma of the esophagus; stage III esophageal cancer; stage IV esophageal cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Memorial Sloan-Kettering Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Erlotinib may stop the growth of cancer by blocking the enzymes necessary for tumor cell growth. PURPOSE: Phase II trial to study the effectiveness of erlotinib in treating patients who have advanced esophageal cancer or stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00045526

- **Interleukin-12, Paclitaxel, and Trastuzumab in Treating Patients With Solid Tumors**

  Condition(s): recurrent breast cancer; recurrent gastric cancer; recurrent non-small cell lung cancer; recurrent ovarian epithelial cancer; Recurrent Small Cell Lung Cancer; recurrent endometrial cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Arthur G. James Cancer Hospital & Richard J. Solove Research Institute; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Interleukin-12 may kill tumor cells by stopping blood flow to the tumor and by stimulating a person's white blood cells to kill cancer cells. Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Monoclonal antibodies such as trastuzumab can locate tumor cells and either kill them or deliver tumor-killing substances to them without harming normal cells. Combining interleukin-12, chemotherapy, and monoclonal antibody therapy may kill more tumor cells. PURPOSE: Phase I trial to study the effectiveness of interleukin-12, paclitaxel, and trastuzumab in treating patients who have solid tumors.

  Phase(s): Phase I

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00028535

- **Intraperitoneal Floxuridine in Gastric Carcinoma**

  Condition(s): Stomach Neoplasms

  Study Status: This study is currently recruiting patients.

Sponsor(s): FDA Office of Orphan Products Development

Purpose - Excerpt: Patients undergoing curative resection for **gastric cancer** have been shown to benefit from postoperative chemotherapy with 5-fluoruracil + leucovorin, and radiation in an Intergroup Study (INT116). However, both local and distal relapses still occur in 50% at 3 years. This study is based on the hypothesis that 2 cycles (of 3 days each 2 weeks apart) of intraperitoneal FUDR (floxuridine), followed by the above treatment will improve outcome.

Phase(s): Phase I; Phase II

Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00058916

- **Irofulven in Treating Patients With Recurrent or Metastatic Gastric Cancer**

  Condition(s): recurrent gastric cancer; stage IV gastric cancer; adenocarcinoma of the stomach

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Cancer Therapeutics Research Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy such as irofulven use different ways to stop tumor cells from dividing so they stop growing or die. PURPOSE: Phase II trial to study the effectiveness of irofulven in treating patients who have recurrent or metastatic **gastric cancer.**

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00062257

- **LMB-9 Immunotoxin in Treating Patients With Advanced Pancreatic, Esophageal, Stomach, Colon, or Rectal Cancer**

  Condition(s): Colorectal Cancer; Esophageal Cancer; Gastric Cancer; Pancreatic Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): University of Freiburg; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: LMB-9 immunotoxin can locate tumor cells and kill them without harming normal cells. This may be an effective treatment for advanced pancreatic, esophageal, stomach, colon or rectal cancer. PURPOSE: Phase I trial to study the effectiveness of LMB-9 immunotoxin in treating patients who have advanced pancreatic, esophageal, stomach, colon, or rectal cancer.

  Phase(s): Phase I

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00010270

- **Neoadjuvant Irinotecan and Cisplatin Followed By Surgical Resection in Treating Patients With Locally Advanced Cancer of the Stomach or Gastroesophageal Junction**

  Condition(s): adenocarcinoma of the stomach; stage II gastric cancer; stage III gastric cancer; stage IV gastric cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Memorial Sloan-Kettering Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy such as irinotecan and cisplatin use different ways to stop tumor cells from dividing so they stop growing or die. Combining more than one chemotherapy drug and giving them before surgery may shrink the tumor so that is can be removed during surgery. PURPOSE: Phase II trial to study the effectiveness of combining neoadjuvant irinotecan with cisplatin in treating patients who are undergoing surgical resection for locally advanced cancer of the stomach or gastroesophageal junction.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00062374

- **Oblimersen, Cisplatin, and Fluorouracil in Treating Patients With Advanced Esophageal, Gastroesophageal Junction, or Stomach Cancer**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Cornell University Medical College; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy such as cisplatin and fluorouracil use different ways to stop tumor cells from dividing so they stop growing or die. Oblimersen may increase the effectiveness of chemotherapy by making tumor cells more sensitive to the drugs. PURPOSE: Phase I/II trial to study the effectiveness of combining cisplatin and fluorouracil with oblimersen in treating patients who have locally advanced, recurrent, or metastatic cancer of the esophagus, gastroesophageal junction, or stomach.

  Phase(s): Phase I; Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00064259

- **Oxaliplatin and Capecitabine in Treating Patients With Advanced Esophageal Cancer or Stomach Cancer**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): North Central Cancer Treatment Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Combining more than one drug may kill more tumor cells. PURPOSE: Phase II trial to study the effectiveness of

combining oxaliplatin with capecitabine in treating patients who have advanced esophageal cancer or stomach cancer.

Phase(s): Phase II

Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00040859

- **Phase 1/2 study of S-1 and cisplatin in advanced gastric cancer**

  Condition(s): Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Taiho Pharma USA, Inc.

  Purpose - Excerpt: The purpose of the phase 1 portion of the study is to determine the safe dose of S-1 and cisplatin that can be administered in **gastric cancer** patients. The purpose of the phase 2 portion of the study is to determine the antitumor activity of the S-1 and cisplatin regimen established from phase 1 in patients with advanced **gastric cancer.**

  Phase(s): Phase I; Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00072787

- **Radiation Therapy and Chemotherapy Before and After Surgery in Treating Patients With Esophageal Cancer**

  Condition(s): Esophageal Cancer; Gastric Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Eastern Cooperative Oncology Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Radiation therapy uses high-energy x-rays to damage tumor cells. Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. Combining radiation therapy with chemotherapy before and after surgery may kill more tumor cells. PURPOSE: Randomized phase II trial to compare the effectiveness of combining radiation therapy with two different chemotherapy regimens before and after surgery in treating patients who have esophageal cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00033657

- **Study of T900607-sodium in subjects with previously treated gastric cancer or adenocarcinoma of the esophagus**

  Condition(s): Gastric Cancer; Esophageal Neoplasms

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Tularik

Purpose - Excerpt: This is a clinical research study of T900607-sodium to determine if it is effective and safe in treating **gastric cancer** and adenocarcinoma of the esophagus. Patients will be treated on a weekly basis with an intravenous injection of the study drug.

Phase(s): Phase II

Study Type: Interventional

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00048529

- **Surgery With or Without Combination Chemotherapy in Treating Patients With Cancer of the Esophagus**

  Condition(s): stage I gastric cancer; stage II gastric cancer; stage I esophageal cancer; stage II esophageal cancer; adenocarcinoma of the stomach; Adenocarcinoma of the Esophagus

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Federation Nationale des Centres de Lutte Contre le Cancer

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. It is not known whether combining chemotherapy with surgery is more effective than surgery alone. PURPOSE: Randomized phase III trial to compare the effectiveness of surgery with or without combination chemotherapy in treating patients with cancer of the esophagus.

  Phase(s): Phase III

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00002883

- **Surgery With or Without Combination Chemotherapy in Treating Patients With Stomach Cancer**

  Condition(s): stage II gastric cancer; stage III gastric cancer; stage IV gastric cancer; intestinal adenocarcinoma of the stomach; diffuse adenocarcinoma of the stomach; mixed adenocarcinoma of the stomach

  Study Status: This study is currently recruiting patients.

  Sponsor(s): EORTC Gastrointestinal Tract Cancer Cooperative Group

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. It is not yet known if surgery alone or surgery combined with chemotherapy is more effective in treating stomach cancer. PURPOSE: Randomized phase III trial to compare the effectiveness of surgery with or without combination chemotherapy in treating patients who have stage II, stage III, or stage IV stomach cancer.

  Phase(s): Phase III

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00004099

- **T900607 in Treating Patients With Stomach Cancer**

  Condition(s): recurrent gastric cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Ireland Cancer Center; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Drugs used in chemotherapy use different ways to stop tumor cells from dividing so they stop growing or die. PURPOSE: Phase II trial to study the effectiveness of T900607 in treating patients who have stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00054249

- **Tezacitabine with or without 5-Fluorouracil (5-FU) for advanced esophageal cancer or gastric cancer**

  Condition(s): Esophageal Neoplasms; Stomach Neoplasms; Adenocarcinoma

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Chiron Corporation

  Purpose - Excerpt: The purpose of this study is to evaluate the efficacy and safety of tezacitabine when given alone or in combination with 5-fluorouracil (5-FU) to subjects who have advanced esophageal or gastric adenocarcinoma.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00054873

- **Vaccine Therapy in Treating Patients With Gastric Cancer, Non-Small Cell Lung Cancer, Prostate, or Ovarian Cancer**

  Condition(s): adult brain tumor; Gastric Cancer; Non-small cell lung cancer; ovarian epithelial cancer; Prostate Cancer

  Study Status: This study is currently recruiting patients.

  Sponsor(s): Southwest Oncology Group; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Vaccines made from a peptide may make the body build an immune response to kill cancer cells. PURPOSE: Phase I trial to compare two different vaccines in treating patients who have **gastric cancer,** non-small cell lung cancer, prostate, or ovarian cancer.

  Phase(s): Phase I

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00023634

- **Imatinib Mesylate in Treating Patients With Refractory Metastatic and/or Unresectable Stomach Cancer**

  Condition(s): recurrent gastric cancer; stage IV gastric cancer; adenocarcinoma of the stomach

  Study Status: This study is not yet open for patient recruitment.

  Sponsor(s): Beckman Research Institute; National Cancer Institute (NCI)

  Purpose - Excerpt: RATIONALE: Imatinib mesylate may stop the growth of tumor cells by blocking the enzymes necessary for tumor cell growth. PURPOSE: Phase II trial to study the effectiveness of imatinib mesylate in treating patients who have refractory metastatic and/or unresectable stomach cancer.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00068380

Keeping Current on Clinical Trials

The U.S. National Institutes of Health, through the National Library of Medicine, has developed ClinicalTrials.gov to provide current information about clinical research across the broadest number of diseases and conditions.

The site was launched in February 2000 and currently contains approximately 5,700 clinical studies in over 59,000 locations worldwide, with most studies being conducted in the United States. ClinicalTrials.gov receives about 2 million hits per month and hosts approximately 5,400 visitors daily. To access this database, simply go to the Web site at **http://www.clinicaltrials.gov/** and search by "stomach cancer" (or synonyms).

While ClinicalTrials.gov is the most comprehensive listing of NIH-supported clinical trials available, not all trials are in the database. The database is updated regularly, so clinical trials are continually being added. The following is a list of specialty databases affiliated with the National Institutes of Health that offer additional information on trials:

- For clinical studies at the Warren Grant Magnuson Clinical Center located in Bethesda, Maryland, visit their Web site: **http://clinicalstudies.info.nih.gov/**
- For clinical studies conducted at the Bayview Campus in Baltimore, Maryland, visit their Web site: **http://www.jhbmc.jhu.edu/studies/index.html**
- For cancer trials, visit the National Cancer Institute: **http://cancertrials.nci.nih.gov/**
- For eye-related trials, visit and search the Web page of the National Eye Institute: **http://www.nei.nih.gov/neitrials/index.htm**
- For heart, lung and blood trials, visit the Web page of the National Heart, Lung and Blood Institute: **http://www.nhlbi.nih.gov/studies/index.htm**
- For trials on aging, visit and search the Web site of the National Institute on Aging: **http://www.grc.nia.nih.gov/studies/index.htm**
- For rare diseases, visit and search the Web site sponsored by the Office of Rare Diseases: **http://ord.aspensys.com/asp/resources/rsch_trials.asp**

- For alcoholism, visit the National Institute on Alcohol Abuse and Alcoholism: **http://www.niaaa.nih.gov/intramural/Web_dicbr_hp/particip.htm**
- For trials on infectious, immune, and allergic diseases, visit the site of the National Institute of Allergy and Infectious Diseases: **http://www.niaid.nih.gov/clintrials/**
- For trials on arthritis, musculoskeletal and skin diseases, visit newly revised site of the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health: **http://www.niams.nih.gov/hi/studies/index.htm**
- For hearing-related trials, visit the National Institute on Deafness and Other Communication Disorders: **http://www.nidcd.nih.gov/health/clinical/index.htm**
- For trials on diseases of the digestive system and kidneys, and diabetes, visit the National Institute of Diabetes and Digestive and Kidney Diseases: **http://www.niddk.nih.gov/patient/patient.htm**
- For drug abuse trials, visit and search the Web site sponsored by the National Institute on Drug Abuse: **http://www.nida.nih.gov/CTN/Index.htm**
- For trials on mental disorders, visit and search the Web site of the National Institute of Mental Health: **http://www.nimh.nih.gov/studies/index.cfm**
- For trials on neurological disorders and stroke, visit and search the Web site sponsored by the National Institute of Neurological Disorders and Stroke of the NIH: **http://www.ninds.nih.gov/funding/funding_opportunities.htm#Clinical_Trials**

CHAPTER 6. PATENTS ON STOMACH CANCER

Overview

Patents can be physical innovations (e.g. chemicals, pharmaceuticals, medical equipment) or processes (e.g. treatments or diagnostic procedures). The United States Patent and Trademark Office defines a patent as a grant of a property right to the inventor, issued by the Patent and Trademark Office.[9] Patents, therefore, are intellectual property. For the United States, the term of a new patent is 20 years from the date when the patent application was filed. If the inventor wishes to receive economic benefits, it is likely that the invention will become commercially available within 20 years of the initial filing. It is important to understand, therefore, that an inventor's patent does not indicate that a product or service is or will be commercially available. The patent implies only that the inventor has "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States. While this relates to U.S. patents, similar rules govern foreign patents.

In this chapter, we show you how to locate information on patents and their inventors. If you find a patent that is particularly interesting to you, contact the inventor or the assignee for further information. **IMPORTANT NOTE:** When following the search strategy described below, you may discover non-medical patents that use the generic term "stomach cancer" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on stomach cancer, we have not necessarily excluded non-medical patents in this bibliography.

Patents on Stomach Cancer

By performing a patent search focusing on stomach cancer, you can obtain information such as the title of the invention, the names of the inventor(s), the assignee(s) or the company that owns or controls the patent, a short abstract that summarizes the patent, and a few excerpts from the description of the patent. The abstract of a patent tends to be more technical in nature, while the description is often written for the public. Full patent descriptions contain much more information than is presented here (e.g. claims, references, figures, diagrams, etc.). We will tell you how to obtain this information later in the chapter. The following is an

[9]Adapted from the United States Patent and Trademark Office:
http://www.uspto.gov/web/offices/pac/doc/general/whatis.htm.

example of the type of information that you can expect to obtain from a patent search on stomach cancer:

- **Anti-focosylceramide monoclonal antibody**

  Inventor(s): Hattori; Hiroshi (Tokyo, JP), Ishihara; Hideki (Saitama, JP), Ono; Kenichi (Saitama, JP)

  Assignee(s): Hoechst Japan Limited (Tokyo, JP)

  Patent Number: 5,331,093

  Date filed: May 27, 1992

  Abstract: The invention relates to a monoclonal antibody PC47H specifically recognizing fucosylceramide derived from a ceramide-mono-glycoside fraction of neutral glycolipid extracted and purified from human cancer tissues and having properties such as belonging to IgM and showing reactivity to neither of normal peripheral blood lymphocyte, normal erythrocyte, normal fibroblast nor cell lines derived from leukemia, hepatoma, breast cancer and neuroblastoma but to cell lines derived from lung cancer, **stomach cancer,** colon cancer and pancreas cancer; a hybridoma having ability to produce the aforementioned monoclonal antibody; a method for manufacturing the aforementioned monoclonal antibody which comprises immunizing an animal with a neutral glycolipid fraction extracted from human pancreas cancer, fusing animal cells with myeloma cells to generate hybridomas, cloning the hybridomas, selecting clones which produce monoclonal antibodies which specifically recognize fucosylceramide and then using the clones to manufacture the monoclonal antibody; and a diagnostic aid of cancers such as lung cancer, **stomach cancer,** colon cancer and pancreas cancer containing the aforementioned monoclonal antibody as an active component.

  Excerpt(s): This invention relates to a novel monoclonal antibody effective for the diagnosis of human cancers, a hybridoma producing the antibody; a method for manufacturing the antibody and a diagnostic aid using the antibody. The present invention provides a monoclonal antibody which reacts specifically with fucosylceramide of a ceramide-mono-glycoside fraction contained in neutral glycolipid extracted from human cancer tissues, a hybridoma which produces the antibody, a method for manufacturing the antibody by using the hybridoma and a diagnostic aid using the antibody. Since a monoclonal antibody preparation technique was established in 1975 by Kohler and Milstein [Nature 256:495 (1975)], numerous investigators have tried to prepare a monoclonal antibody which specifically recognizes cancer tissues up to now. They employed a method of selecting a hybridoma, which is unreactive with human normal cells but recognizes human cancer cells by directly immunizing a mouse with the human cancer cells. It turned out that many of the tumor antigens which were recognized by the monoclonal antibody obtained by the above-described method were sugar chain antigens [S. Hakomori, Scientific American 254, 32.41 (1986)].

  Web site: http://www.delphion.com/details?pn=US05331093__

- **Anti-human gastric cancer monoclonal antibody**

  Inventor(s): Furuya; Akiko (Machida, JP), Hanai; Nobuo (Mercer Island, WA), Yoshida; Hajime (Sagamihara, JP)

  Assignee(s): Kyowa Hakko Kogyo Co., Ltd. (Tokyo, JP)

  Patent Number: 5,051,355

  Date filed: December 6, 1989

  Abstract: An anti-human **gastric cancer** monoclonal antibody, AMC-462, which belongs to the class IgG.sub.1, reacts with human digestive system cancer, and recognizes sialylated glycoproteins or glycolipids as the antigen is disclosed. It is effective for diagnosis of digestive system cancer, especially pancreatic cancer.

  Excerpt(s): The present invention relates to a monoclonal antibody AMC-462, which belongs to the class IgG.sub.1 and reacts with digestive system cancer, and to a method of detecting the presence of digestive system cancer. The present invention is applicable in diagnosis of digestive system cancer, especially pancreatic cancer, and effective in the field of the diagnostic. Carcinoembryonic antigen (CEA) has been hitherto known as a tumor marker of digestive system cancer. Methods of detecting the presence of digestive system cancer by measuring CEA using anti-CEA serum (polyclonal antibody) have been known. And methods of detecting the presence of digestive system cancer using anti-CEA monoclonal antibodies have also been developed. According to the serodiagnosis by measuring CEA, the positive rate is 30-60%, and thus it is unworthy of screening of digestive system cancer patients.

  Web site: http://www.delphion.com/details?pn=US05051355__

- **Antisense oligonucleotides for inhibiting helicobacter pylori activity**

  Inventor(s): Colote; Soudhir (Les Ulis, FR), Pirotzky; Eduardo (Paris, FR)

  Assignee(s): Societe de Conseils de Recherches et d'Applications Scientifiques (FR)

  Patent Number: 5,977,340

  Date filed: October 1, 1997

  Abstract: Antisense oligonucleotides that selectively hybridise with one or more genes necessary for Helicobacter pylori (H. pylori) activity, and particularly with the CagA cytotoxicity-associated immunodominant antigen, flagellin (flaA and flaB) or vacuolating cytotoxin (vacA), are disclosed. Pharmaceutical compositions containing said antisense oligonucleotides, and the use thereof for treating atrophic gastritis, peptic and duodenal ulcers, gastric atrophy or **stomach cancer,** are also disclosed.

  Excerpt(s): The present invention concerns antisense oligonucleotides which selectively hybridize with one or more genes necessary for the action of Helicobacter pylori (H. pylori), pharmaceutical compounds comprising them and their use as Helicobacter pylori inhibitors. Helicobacter pylori (H. pylori) is a microaerophilic bacterium, gram negative, colonizing the intercellular interstices and junctions of the human gastric mucous membrane and establishing a chronic infection with numerous different clinical manifestations such as atrophic gastritis, peptic and duodenal ulcer, gastric atrophy, and **gastric carcinoma.** The numerous clinical isolated substances have permitted classification of H. pylori into two groups based on the presence or the absence of vacuolizing cytotoxin. In vitro experiments have shown that the virulent nature of the bacterium may be connected to its mobility and to the presence of vacuolizing cytotoxin.

Likewise, there is a direct relationship between the expression of cytotoxin and the presence of an immuno-dominant CagA antigen exposed on the surface. Thus, inhibition of the mobility of the bacterium and/or expression of the cytotoxic factor may prevent the manifestation of clinical symptoms. One of the ways to inhibit these factors comprises using antisense oligonucleotides to block the expression of the coding of the genes for the immuno-dominant antigen associated with the CagA cytotoxicity and/or flagellin (flaA and flaB) and/or the vacuolizing cytotoxin (vacA). The antisense strategy is a therapeutic approach whose purpose is the selective modulation of the expression of the genes by a highly selective association of a chain of nucleotides (oligonucleotides) with its supplementary sequence on RNA or DNA and consequently the inhibition of the synthesis of the corresponding protein.

Web site: http://www.delphion.com/details?pn=US05977340__

- **Composition and method for treating and preventing helicobactor-pylori-associated stomach gastritis, ulcers and cancer**

  Inventor(s): Segelman; Alvin Burton (Orem, UT)

  Assignee(s): Nature's Sunshine Products, Inc. (Provo, UT)

  Patent Number: 6,187,313

  Date filed: February 17, 1998

  Abstract: The present invention is an orally-administrable composition for preventing and treating Helicobacter pylori-associated stomach gastritis and ulcers, and for preventing Helicobacter pylori-associated **stomach cancer.** The invention is a herb or herb extract containing an anti-H. pylori activity. The invention further includes methods for making and methods for using the invention.

  Excerpt(s): This invention relates to the field of compositions and methods for treating and preventing Helicobactor pylori-associated stomach gastritis, ulcers and cancer. More specifically, this invention relates to the field of compositions of herbs, herb parts or herb extracts which can be used to treat or prevent Helicobactor pylori-associated stomach gastritis, ulcers and cancer, and methods for making and using such compositions. Twelve years ago it was first reported and subsequently verified by many scientific studies that a particular bacterium known as Helicobacter pylori ("H. pylori") commonly infects the human stomach. Many people so infected subsequently acquire what is known as chronic superficial gastritis ("stomach inflammation") which may continue on for many decades. It is now known that left untreated, this condition may lead to stomach ulcers and even **stomach cancer** disease. (Marshall, B. J. and Warren, J. B. Unidentified curved bacilli in the stomach of patients with gastritis and peptic ulceration. Lancet, No.8390: 1311-1315 (1984); Nomura, A., Stemmermann, G. N., Chyou, P.-H., et al., Helicobacter pylori infection and **gastric carcinoma** among Japanese Americans in Hawaii. New Engl. J. Med., 325: 1132-1136 (1991); Blaser, M. J. and Parsonnet, J., Parasitism by the "slow" bacterium Helicobacter leads to altered gastric homeostasis and neoplasia. J. Clin, Invest., 94: 4-8 (1994).) Extensive laboratory as well as clinical studies have been reported which clearly show that people suffering from chronic gastritis and/or stomach ulcer disease caused by H. pylori infection can be cured when administered certain antibiotics which eradicate H. pylori [Rubinstein, G., Dunkin, K. and Howard, A. J., The susceptibility of Helicobacter pylori to 12 antimicrobial agents, omeprazole and bismuth salts. J. Antimicrob. Chemother., 34: 409-413 (1994); Rosioru, C. Glassman, M. S., Berezin, S. H., et al., Treatment of Helicobacter pylori--associated gastroduodenal disease in children. Dig. Dis. Sci., 38: 123-128 (1993);

Blaser, M. J., The bacteria behind the ulcers. Sci. Amer., February 1996, 104-107]. On the other hand, the use of antibiotics has some drawbacks, including the rapid resistance of H. pylori to antimicrobial agents (Rubinstein, G. et al., op. cit.) as well as the well known fact that many people are allergic to antibiotics and some develop severe diarrhea and/or secondary infections which complicate antibiotic therapy. Furthermore, the antibiotics used to treat (i.e., kill H. pylori) ulcers also kill a wide variety of non-pathogenic bacteria in the body, a most undesirable feature of antibiotic therapy (i.e., "non-selectivity"). The present invention is based on the unexpected discovery that several herbs and an insect product are capable of being orally administered to humans, either singly or in combination, to destroy or inhibit the growth of H. pylori so that gastritis and ulcer disease can be prevented or cured. In this manner **stomach cancer** can also be prevented. The composition may also be combined with certain other beneficial and healing substances (i.e., licorice root (Glycyrrhiza glabra)).

Web site: http://www.delphion.com/details?pn=US06187313__

- **Diagnosis of early gastric cancer**

  Inventor(s): Harkonen; Matti (Espoo, FI), Ristimaki; Ari (Helsinki, FI), Sipponen; Pentti (Espoo, FI)

  Assignee(s): Biohit Oyj (Helsinki, FI)

  Patent Number: 6,416,961

  Date filed: September 14, 1999

  Abstract: The present invention pertains to a method for determination of the significance of a histologically detected premalignant lesion as a risk for intestinal type **gastric cancer** or carcinoma in situ, comprising detecting from a patient sample comprising gastric mucosa cellsa) cyclooxygenase-2 Cox-2) mRNA expression, orb) Cox-2 protein;wherein overexpression of Cox-2 is indicative of an increased risk for intestinal type **gastric cancer.**

  Excerpt(s): This application is the national phase under 35 U.S.C.sctn.371 of PCT International Application No. PCT/FI98/00238 which has an International filing date of Mar. 18, 1998 which designated the United States of America. This application also claims priority under 35 U.S.C.sctn.119(a)-(d) of prior foreign application Finland No. 971124 which has a filing date of Mar. 18, 1997. The present invention relates to diagnosis of **stomach cancer** and concerns in specific a method for detection of **gastric carcinoma** at a premalignant phase by detecting cyclooxygenase-2 expression in a patient sample. Gastric cancer is one of the most frequent and lethal malignancies in the world (Coleman et al., 1993). It is the fourth most common malignancy in Finnish males and the fifth in females, and accounts for 5% of all malignancies in Finland (Cancer Incidence in Finland 1994. Finnish Cancer Registry, Helsinki, 1996). Early detection of **stomach cancer** is difficult, and in most western countries the five year survival rate is less than 20% (Wanebo et al., 1993). More than 90% of **stomach cancers** are adenocarcinomas, which are divided into intestinal and diffuse types by the Lauren classification (Lauren, 1965).

  Web site: http://www.delphion.com/details?pn=US06416961__

- **Helicobacter pylori nickel binding protein**

  Inventor(s): Gilbert-Rothstein; Joanne V. (Arlington, MA), Plaut; Andrew G. (Lexington, MA), Wright; Andrew (Lincoln, MA)

  Assignee(s): New England Medical Center Hospital, Inc. (Boston, MA), Tufts University School of Medicine Hospital, Inc. (Boston, MA)

  Patent Number: 5,780,040

  Date filed: June 8, 1994

  Abstract: The application discloses a nickel binding protein and its encoding DNA isolated from Helicobacter pylori. This organism is the primary cause of chronic gastritis and ensuing peptic ulcers, and has been implicated in **stomach cancer.** The nickel binding protein is useful to inhibit assembly of active ureases, the enzymes responsible for the pathogenic features of the bacterium. Potential uses include as a vaccine, a diagnostic, a drug target, and a therapy in itself.

  Excerpt(s): The field of the invention is diagnosis, prophylaxis, and treatment of gastric disease and nickel-related disorders; and non-clinical nickel detoxification The invention also relates to the bacterium Helicobacter pylori. The bacterium Helicobacter pylon was first isolated from human gastric mucosa in 1983, and was originally identified as a member of the genus Campylobacter (either C. pylori or C. pyloridis; Warren and Marshall, Lancet i:1273, 1983; Marshall and Goodwin, Int. J. Syst. Bacteriol. 37:68, 1987). H. pylori is recognized as a pathogen, and is a major cause of chronic gastritis, inflammation of the gastric mucosa, and peptic ulcers. It can also contribute to the development of **gastric cancer** (for review, see Sipponen et al., "Histology and Ultrastructure of Helicobacter pylori Infections: Gastritis, Duodenitis, and Peptic Ulceration, and Their Relevant Precancerous Conditions", in Helicobacter pylori: Biology and Clinical Practice 37, Goodwin and Worsley, eds., 1993). H. pylori is able to survive in the highly acidic environment of the stomach at least in part due to its high urease activity, which may raise the pH of the local environment by hydrolyzing endogenous urea into ammonia and carbon dioxide. The ammonia component affects the pH, and its local accumulation is thought to have a directly toxic effect on nearby mucosa.

  Web site: http://www.delphion.com/details?pn=US05780040__

- **Human monoclonal antibody to antigen of gastric cancer and B-cell line for producing this antibody, method for preparing this B-cell line and antibody, antigen and method of preparation of this antigen**

  Inventor(s): Abe; Tsutomu (Fuji, JP), Fukumoto; Masayuki (Saitama, JP)

  Assignee(s): Asahi Kasei Kabushiki Kaisha (Osaka, JP)

  Patent Number: 5,024,946

  Date filed: September 29, 1986

  Abstract: The present invention relates to a human B-cell line capable of producing a human monoclonal antibody against an antigen found on **gastric cancer** cell lines or tissues. The B-cell line is formed by culturing B-cells of a lymph node obtained from a patient with **gastric cancer** and a HAT sensitive B-cell line. The antigen is also disclosed.

  Excerpt(s): The present invention relates to a novel human B-cell line and more specifically to a human B-cell line for the production of a novel monoclonal antibody to

an antigen of human **gastric cancer,** to the antibody so produced and to the antigen. The capacity of the human body to produce immunoglobulins has found applications in medicine and industry. The ability of the human auto-antibody production system to distinguish cancer-related antigens from almost all of the normal cells in the human body has found a wide range of applications in the detection and therapy of cancers. In diagnostic applications, radio-isotope-coupled immunoglobulins can be used to identify the location of cancer in a patient. On the other hand, in therapeutic applications immunoglobulins can be used for passive immunization or site-directed therapy against cancer. Major stumbling blocks in the wide use of human immunoglobulin therapy have been a limited probability of selecting B-cell clones and instability of the cell cultures which can produce monoclonal antibodies. The cancer-related antigens defined by human auto-antibodies can also be employed in the active immunotherapy of cancer and as therapeutic markers of cancer. The discovery by Milstein and Kohler of mouse hybridomas capable of secreting specific monoclonal antibodies against predefined antigens ushered a new era in the field of experimental immunology. The clonal selection and immortality of such hybridoma cell lines assure the monoclonality, monospecificity and permanent availability of their antibodies. However, in human clinical applications the use of such mouse antibodies is clearly limited by the fact that they are foreign proteins and would act as antigens.

Web site: http://www.delphion.com/details?pn=US05024946__

- **Immunochemical diagnostic method for gastric cancer**

  Inventor(s): Deutsch; Emmanuel (469 Beacon St., Boston, MA 02115)

  Assignee(s): none reported

  Patent Number: 4,219,539

  Date filed: February 24, 1978

  Abstract: Using anti-IgG and anti-Fc sera which is reacted with **gastric cancer** juice from a patient by double diffusion on Ouchterlony agarose, there is repeatedly obtained a double precipitin line. Under immunoelectrophoresis, anodic displacement of anti-IgG and anti-Fc sera is observed. The.beta.sub.1 to.alpha.sub.1 precipitin line with anti-IgG and anti-Fc is thus formed to be characteristic of **gastric cancer** juice. These double precipitin lines correspond to an antigen-antibody complex which are uniquely identified by Ouchterlony immunodiffusion assay with these anti-immunoglobulin sera. Only a single precipitin line is formed between **gastric cancer** juice and anti-Fab serum.Both with anti-IgG and anti-Fc, various lines are obtained under immunoelectrophoresis with different mobilities, from gamma to.alpha.sub.1. With anti-Fab, however, there is no displacement toward the anode. Normally, Fc seldom moves beyond the site of origin. Thus, both IgG and Fc of **gastric cancer** juice exhibit a displacement toward the anode.

  Excerpt(s): This invention is generally in the field of differentiating between malignant and benign tumors of the gastric mucosa and specifically in the field of **gastric cancer** diagnosis as a tool in early and reproducible detection of **gastric cancer** by assaying the gastric juice of the patient. It is generally accepted among immunologists that tumors may be regarded as invasive grafts of tissue which should evoke homograft reactions in so far as they possess antigens foreign to their hosts. Thus, tumors are subject to principles governing immunological tolerance (see Humphrey and White, Immunology for Students of Medicine, 3rd Edition 1970, 2nd printing 1971, Blackwell Publications, page 580). It is also accepted that antigens have been detected in human carcinomas of

the gastrointestinal tract which are absent from the corresponding normal tissue of their hosts but are present in embryonic tissues of the same species. These antigens represent the product of genes which are normally repressed in adult cells (see "Immunology. " as cited above, page 583). These last named antigens are presumed to represent products of genes which are normally repressed in adult cells and are distinctly different from virus induced tumors or tumors elicited by chemical carcinogens.

Web site: http://www.delphion.com/details?pn=US04219539__

- **Isolated nucleic acid molecules associated with colon, renal, and stomach cancer and methods of using these**

  Inventor(s): Chen; Yao-Tseng (New York, NY), Old; Lloyd J. (New York, NY), Scanlan; Matthew J. (New York, NY), Stockert; Elisabeth (New York, NY)

  Assignee(s): Ludwig Institute for Cancer Research (New York, NY)

  Patent Number: 6,403,373

  Date filed: June 22, 1998

  Abstract: Various molecules associated with cancer are disclosed. The invention also discloses diagnostic and therapeutic methods based upon these molecules.

  Excerpt(s): This invention relates to the isolation of genes associated with renal and/or colon cancer, methods of diagnosing renal and/or colon cancer using these, and the use of other known genes in diagnosis of, as well as therapeutic approaches to treating such conditions. It is fairly well established that many pathological conditions, such as infections, cancer, autoimmune disorders, etc., are characterized by the inappropriate expression of certain molecules. These molecules thus serve as "markers" for a particular pathological or abnormal condition. Apart from their use as diagnostic "targets", i.e., materials to be identified to diagnose these abnormal conditions, the molecules serve as reagents which can be used to generate diagnostic and/or therapeutic agents. A by no means limiting example of this is the use of cancer markers to produce antibodies specific to a particular marker. Yet another non-limiting example is the use of a peptide which complexes with an MHC molecule, to generate cytolytic T cells against abnormal cells. Preparation of such materials, of course, presupposes a source of the reagents used to generate these. Purification from cells is one laborious, far from sure method of doing so. Another preferred method is the isolation of nucleic acid molecules which encode a particular marker, followed by the use of the isolated encoding molecule to express the desired molecule.

  Web site: http://www.delphion.com/details?pn=US06403373__

Patent Applications on Stomach Cancer

As of December 2000, U.S. patent applications are open to public viewing.[10] Applications are patent requests which have yet to be granted. (The process to achieve a patent can take several years.) The following patent applications have been filed since December 2000 relating to stomach cancer:

[10] This has been a common practice outside the United States prior to December 2000.

- **ANTI-HELICOBACTER VACCINE COMPLEX**

  Inventor(s): TOROSSIAN, FERNAND NARBEY; (TOULOUSE, FR)

  Correspondence: John A Artz; Lyon & Artz; 28333 Telegraph Road; Suite 250; Southfield; MI; 48034

  Patent Application Number: 20020032152

  Date filed: August 25, 1998

  Abstract: A therapeutical vaccine complex having activity specific for Helicobacter bacteria as well as non-specific immunomodulation activity for regulating the natural defences of the body, is disclosed. The drug is also useful for preventing relapses, particularly in cases of resistance to conventional treatment. The drug essentially consists of RNA, selective membrane fractions of microbial germs, particular amino acid sequences, sodium chloride and a steroidal anti-inflammatory in predetermined proportions enabling simultaneous delivery of antibiotics and frenosecretories. Said drug is particularly suitable for treating digestive tract diseases caused by Helicobacter (antral gastritis, duodenal ulcers, gastric ulcers, oesophagitis, hepatitis) and preventing **stomach cancer** and degenerative infectious MALT (mucosa-associated lymphoid tissue) lymphoma, as well as coronary diseases directly or indirectly dependent on Helicobacter infections.

  Excerpt(s): The present invention relates to a therapeutic and preventive anti-bacterial vaccine complex which possesses a vaccinating power linked to the presence of specific antigens against Helicobacter pylori (previously called Campylobacter pylori), Helicobacter hepaticus, Helicobacter coronari, and nonspecific antigens providing immunomodulation. [MARSHALL B. J., WARREN Jr., Unidentified curved bacilli in the stomach of patients with gastritis and peptic ulceration Lancet 1984: i:1311-4)]. [MGRAUD F., Helicobacter pylori, the most important bacterium among the mucus bacteria, La lettre de l'infectiologue 1993; 8 (suppl. 4): 151-9].

  Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Cancer gene determination and therapeutic screening using signature gene sets**

  Inventor(s): Soppet, Daniel; (Centreville, VA)

  Correspondence: Carella, Byrne, Bain, Gilfillan,; Cecchi, Stewart & Olstein; 6 Becker Farm Road; Roseland; NJ; 07068; US

  Patent Application Number: 20020081301

  Date filed: September 25, 2001

  Abstract: Processes for assaying potential antitumor agents based on their modulation of the expression of specified genes, or sets, of suspected cancer cell genes, especially for **stomach cancer,** are disclosed, along with methods for diagnosing cancerous, or potentially cancerous, conditions as a result of the expression, or patterns of expression, of such genes, or sets of genes. Also disclosed are methods for determining functionally related genes, or gene sets, as well as methods for treating cancer based on targeting expression products of such genes, or gene sets, and determining genes involved in the cancerous process.

  Excerpt(s): This application claims priority of U.S. Provisional Applications 60/235,082, filed Sep. 25, 2000 and 60/234,924, filed Sep. 25, 2000; the disclosures of which are hereby incorporated by reference in their entirety. The present invention relates to

methods of assaying potential anti-tumor agents based on their modulation of the expression of specified sets of genes and methods for diagnosing cancerous, or potentially cancerous, conditions as a result of the patterns of expression of such genes. Screening assays for novel drugs are based on the response of model cell based systems in vitro to treatment with specific compounds. Various measures of cellular response have been utilized, including the release of cytokines, alterations in cell surface markers, activation of specific enzymes, as well as alterations in ion flux and/or pH. Some such screens rely on specific genes, such as oncogenes (or gene mutations).

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Composition for immunohistochemical staining**

  Inventor(s): Ito, Susumu; (Tokushima, JP), Shibamura, Seiichi; (Tokyo, JP), Takesako, Kazuhiro; (Kumamoto, JP), Tatsuro, Irimura; (Tokyo, JP)

  Correspondence: Greenblum & Bernstein, P.L.C.; 1941 Roland Clarke Place; Reston; VA; 20191; US

  Patent Application Number: 20020028474

  Date filed: August 3, 2001

  Abstract: A composition for immunohistochemical staining which contains a diagnostic marker comprising an antibody bound with a fluorescent functional group, together with a substance selected from the group consisting of a glycerophospholipid, a fatty acid, and a surfactant consisting of a saccharide derivative. The composition has excellent fluorescence intensity and does not cause problems of damaging living tissues and DNAs due to irradiation by ultraviolet light, and hence is useful for in vivo immunohistochemical staining. For example, it enables efficient and safe quasi-internal early diagnosis of malignant neoplasia of epithelial tissues such as esophagus cancer, **stomach cancer,** and large bowel cancer by using infrared ray endoscope and other, or identification and diagnosis of lesions during surgical operation.

  Excerpt(s): This application is a continuation of application Ser. No. 09/147,839, filed Sep. 18, 1997, which is the National Stage under 35 U.S.C. 371 of International Application No. PCT/JP97/03306, filed Sep. 18, 1997, which was not published in English under Article 21(2). The entire disclosure of application Ser. No. 09/147,839 is considered as being part of the disclosure of this application, and the entire disclosure of application Ser. No. 09/147,839 is expressly incorporated by reference herein in its entirety. This application is related to Japanese patent applications No. 8-246782 filed Sep. 19, 1996, 8-347886 filed Dec. 26, 1996 and 9-45516 filed Feb. 28, 1997, whose priority is claimed under 35 USC.sctn. 119. The present invention relates to a composition for immunohistochemical staining. More specifically, the present invention relates to a composition for immunohistochemical staining having excellent fluorescence intensity which contains a diagnostic marker comprising a labeling compound, which is excited by irradiation with near infrared rays or far infrared rays that rarely cause histological damage and emits fluorescence, bound with an antibodies or other that specifically recognizes tumor cells and the like. In recent years, endoscopic diagnosis has easily been conducted with the spread of electronic endoscopes. It becomes possible to infallibly find **stomach cancer** or large bowel cancer as initial cancers. However, as far as the diagnosis of microcarcinoma is concerned, almost the same levels of diagnostic performance are achieved by an electronic endoscope and an ordinary endoscope. The fact means that new diagnostic methods, in which electronic endoscopes function efficiently, have not yet been established. If microlesions such as those not recognizable

by an ordinary endoscope can be marked with a labeling antibody that is detectable under electronic endoscopy, it may be possible to easily detect micrlesions by visualizing through a processing using a computer. However, such method has not yet been practically developed.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Compositions and methods for diagnosing, monitoring, staging, imaging and treating stomach cancer**

  Inventor(s): Chen, Sei-Yu; (Foster City, CA), Hu, Ping; (San Ramon, CA), Macina, Roberto A.; (San Jose, CA), Pluta, Jason; (Mountain View, CA), Recipon, Herve E.; (San Francisco, CA)

  Correspondence: Licata & Tyrrell P.C.; 66 E. Main Street; Marlton; NJ; 08053; US

  Patent Application Number: 20020068307

  Date filed: March 30, 2001

  Abstract: The present invention provides polynucleotides and polypeptides which are diagnostic markers for **stomach cancer.** In addition, antibodies immunospecific for these markers are provided. Vectors, hosts cells and methods for producing these markers, as well as methods and tools for using these markers in detecting, diagnosing, monitoring, staging, prognosticating, imaging and treating **stomach cancer** are also provided.

  Excerpt(s): This application claims the benefit of priority from U.S. Provisional Application Serial No. 60/193,095, filed Mar. 30, 2000. This invention relates, in part, to newly identified polynucleotides and polypeptides encoded thereby, as well as methods for producing and using these polynucleotides and polypeptides. Antibodies which are immunospecific for these polypeptides are also described. Expression of the newly identified polynucleotides and levels of the polypeptides encoded thereby are upregulated in or specific to **stomach cancer** tissue. These new polynucleotides and polypeptides, referred to herein as **Stomach Cancer** Specific Genes or SSGs are believed to be useful in assays for detecting, diagnosing, monitoring, staging, prognosticating, imaging and treating cancers, particularly **stomach cancer.** Cancer of the stomach, also referred to as **gastric cancer,** is difficult to diagnose in early stages and can be in the stomach for a long time, growing to a large size before symptoms arise. In the early stages of cancer of the stomach, an individual may experience indigestion and stomach discomfort, a bloated feeling after eating, mild nausea, loss of appetite or heartburn. In more advanced stages of **stomach cancer,** there may be blood in the stool, vomiting, weight loss or more severe pain.

  Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Development of immuno-PCR for serological diagnosis of gastric carcinoma**

  Inventor(s): Ren, Jun; (Xian, CN)

  Correspondence: Knobbe Martens Olson & Bear Llp; 620 Newport Center Drive; Sixteenth Floor; Newport Beach; CA; 92660; US

  Patent Application Number: 20020132233

  Date filed: January 16, 2001

Abstract: Methods of detecting carcinoma-associated antigens in patient sera have been discovered. Aspects of the invention utilize single determinant immuno PCR to detect the presence or absence of a tumor associated antigens (e.g., gastric carcinoma-associated antigen MG7-Ag) in human sera. In some embodiments, a biotinylated monoclonal antibody (e.g., MG7-Ab), an avidin linker, and a biotinylated DNA are employed. The methods described herein allow for the early diagnosis of cancers, including, but not limited to, **gastric carcinoma** and cancers of the liver, colon, breast, uterus, and lung that display a tumor associated antigen. Some embodiments can be used to detect cancers at an early stage, to screen large populations of individuals for various cancers, diagnose the reoccurrence of cancer after surgery, and determine whether an individual suffers from metastasis.

Excerpt(s): This invention concerns the detection of carcinoma-associated antigens in a biological sample. Embodiments include compositions and methods for the early diagnosis of cancer and metastasis. Gastric carcinoma is one of the most significant malignancies causing morbidity and mortality in China and other Asian counties. Since **gastric carcinoma** is largely asymptomatic, early diagnosis is rarely possible. Only at a late stage of **gastric carcinoma** is this malady realized largely because the symptoms of **gastric carcinoma,** including vomiting, reduction of body weight, stomach ache and blood-vomiting, are brought to the attention of a wary clinician. At the early stage of **gastric carcinoma,** the carcinoma cells are located at the gastric mucosa, submucosa in the inner wall of stomach. When **gastric carcinoma** is detected at this early stage, surgical intervention is possible and the five year survival rate can be up to 90%. Thus, early diagnosis is of great importance in improving survival.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **EBV-infected stomach cancer cell line**

Inventor(s): Miyazawa, Yukihasa; (Tokyo, JP), Okinaga, Kota; (Tokyo, JP), Tajima, Masako; (Tokyo, JP), Takanashi, Masakatsu; (Tokyo, JP), Takeshima, Toshio; (Tokyo, JP)

Correspondence: Birch Stewart Kolasch & Birch; PO Box 747; Falls Church; VA; 22040-0747; US

Patent Application Number: 20010044148

Date filed: June 18, 2001

Abstract: An EBV strain infecting epithelial cells and a **stomach cancer** cell line cancerated by EBV are established to clarify the mechanism of canceration of epithelial cells into **stomach cancer** by EBV and to develop a chemotherapeutic agent for **stomach cancer** cancerated by EBV. Further, a **stomach cancer** cell line stably producing EBV-related antigens is established to develop a diagnostic drug for **stomach cancer** cancerated by EBV. According to the present invention, GTC-4 cell line was established through culture of **stomach cancer** tissues. GTC-4 produced the EBV strain infecting epithelial cells and simultaneously produced EBV-related antigens stably in the supernatant.

Excerpt(s): The present invention relates to a method of establishing an EBV-infected **stomach cancer** cell line from **stomach cancer** tissues infected with EBV, as well as EBV infecting cultured epithelial cells. EBV (Epstein-Barr Virus) is a DNA virus belonging to the family human herpes virus. When adult persons are first infected with it, infectious mononucleosis (IM) occur, but in Japan, the majority of persons are first infected latently with the virus at the infant stage, and through the life, latent infection continues.

Accordingly, this virus has been suspected to be that causing many diseases including various cancers and autoimmune diseases, but there are many features unrevealed except that the connection with Barrkit [phonetic] lymphoma in Africa (Epstein M A, Barr Y M, Lancet Vol. 1:252-253, 1964) and upper pharyngeal cancer in the southern part of China (Pathnabathan R. et al., New Engl. J. Med. 333(11):693-698, 1995) was proven. In recent years, an EBV gene was detected in **stomach cancer** cells (Shousha S. et al., J. Clin. Pathol. 47:695-698, 1994) and further the EBV gene was found to be monoclonal (Imai S. et al., Proc. Natl. Acad. Sci. USA, 91:1931-1935, 1994), and since it was suggested that the EBV gene may be involved in the canceration process, it came to be thought that EBV is involved in at least a part of **stomach cancers.**

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Human gastric cancer antigen gene and gastric cancer antigen protein**

  Inventor(s): Hamuro, Junji; (Kawasaki-shi, JP), Kikuchi, Kokichi; (Sapporo-shi, JP), Sahara, Hiroeki; (Sapporo-shi, JP), Sato, Noriyuki; (Sapporo-shi, JP), Suzuki, Manabu; (Kawasaki-shi, JP), Torigoe, Toshihiko; (Sapporo-shi, JP)

  Correspondence: Oblon Spivak Mcclelland Maier & Neustadt PC; Fourth Floor; 1755 Jefferson Davis Highway; Arlington; VA; 22202; US

  Patent Application Number: 20020173642

  Date filed: July 10, 2002

  Abstract: A tumor antigen gene is identified by screening a cDNA library derived from a **gastric cancer** cell line that can induce **gastric cancer** antigen specific cytotoxic T cell (CTL) by means of hybridization and PCR utilizing an amino acid sequence of peptide fragment of a known **gastric cancer** antigen protein, introducing a selected cDNA clone into a cell of **gastric cancer** cell line that cannot induce **gastric cancer** antigen specific CTL so that the clone should be expressed in the cell, and selecting a transgenic cell that has acquired the ability to induce CTL. According to the present invention, there are provided a protein capable of inducing immune response against human **gastric cancer,** DNA encoding the protein, as well as vaccine for treatment and prevention of human **gastric cancer,** and agent for treatment and prevention of human **gastric cancer.**

  Excerpt(s): The present invention relates to a protein capable of inducing a cytotoxic T cell (Cytotoxic T Lymphocytes, see "Ika Men'ekigaku (Medical Immunology), Revised 3rd Edition, Ed. by K. Kikuchi, also abbreviated as "CTL" hereinafter) against human **gastric cancer** cells in vivo or in vitro, and a DNA encoding the protein. Particularly, the present invention relates to a protein capable of presenting CTL against human **gastric cancer** cells by being bound to HLA-A31 antigen (Human Leucocyte Antigen, see "Gendai Men'ekigaku (Current Immunology)", 2nd Edition, Ed. By Y. Yamamura and T. Tada), and a DNA encoding the protein. The present invention also relates to an agent for prevention or treatment of human **gastric cancer,** which comprises a protein capable of inducing CTL against human **gastric cancer** cells in vivo or in vitro, and a vaccine for prevention or treatment of human **gastric cancer,** which comprises a recombinant virus or a recombinant bacterium containing a DNA encoding the protein. As the therapies for malignancy, in addition to surgical treatment, radiotherapy, and chemotherapy, there has been attempted immunotherapy which aims at obtaining therapeutic effect by enhancing the immune function of host patients. However, most of the immunotherapy procedures practically used thus far have obtained the effect by non-specifically enhancing immunecompetence of host patients, and drugs capable of inducing complete cure of tumors in clinical cases have not been practically used yet.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Isolated nucleic acid molecules associated with gastric cancer and methods for diagnosing and treating gastric cancer**

  Inventor(s): Obata, Yuichi; (Chikusa-ku, JP)

  Correspondence: Wolf Greenfield & Sacks, PC; Federal Reserve Plaza; 600 Atlantic Avenue; Boston; MA; 02210-2211; US

  Patent Application Number: 20020037541

  Date filed: April 17, 2001

  Abstract: Various molecules associated with disorders such as **gastric cancer** are disclosed. The invention also discloses diagnostic and therapeutic methods based upon these molecules.

  Excerpt(s): This application is a divisional of application Ser. No. 08/896,164, filed Jul. 17, 1997, now pending. This application claims the benefit under 35 U.S.C.sctn.120 of application Ser. No. 08/896,164. This invention relates to the isolation of genes associated with **gastric cancer,** methods of diagnosing **gastric cancer** using these, as well as other genes which are known, as well as therapeutic approaches to treating such conditions. It is fairly well established that many pathological conditions, such as infections, cancer, autoimmune disorders, etc., are characterized by the inappropriate expression of certain molecules. These molecules thus serve as "markers" for a particular pathological or abnormal condition. Apart from their use as diagnostic "targets", i.e., materials to be identified to diagnose these abnormal conditions, the molecules serve as reagents which can be used to generate diagnostic and/or therapeutic agents. A by no means limiting example of this is the use of cancer markers to produce antibodies specific to a particular marker. Yet another non-limiting example is the use of a peptide which complexes with an MHC molecule, to generate cytolytic T cells against abnormal cells.

  Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Lactone formulations and method of use**

  Inventor(s): Terrero, David; (Ensanche Quisquella, DO)

  Correspondence: Patrea L. Pabst; Holland & Knight Llp; Suite 2000, One Atlantic Center; 1201 West Peachtree Street, N.E.; Atlanta; GA; 30309-3400; US

  Patent Application Number: 20030069393

  Date filed: June 12, 2002

  Abstract: Compounds of Formulae Ia and Ic having a lactone structure and an methylene group at the alpha-position of the lactone structure and methods for using and making the compounds have been disclosed. The lactone compounds can be reacted with an neucleaphilic agent to open the lactone ring to a compound of Formula Ib. The lactone of Formula Ia and its functional derivatives have been isolated from Securidaca virgata. These compounds are referred to as LMSV-6 or Securolide.TM. The purified compounds have demonstrated activity in assays for anti-bacterial and anti-fungal activities, and for treating proliferation disorders such as cancer. Based on the in vitro assays, the lactones are useful for treating proliferation disorders including, for example,

breast cancer, colon cancer, rectal cancer, **stomach cancer,** pancreatic cancer, lung cancer, liver cancer, ovarian cancer, esophageal cancer, and leukemia. They are also effective for treatment of bacterial and fungal infections, including treatment of peptic ulcer disease, gingivitis and periodontitis. The lactone and its derivatives has the following chemical structure: 1wherein R.sub.1-R.sub.9 and Y.sub.1-Y.sub.3 taken independently are preferably a hydrogen atom, a halogen atom, a hydroxyl group, or any other organic groups or groupings which optionally include a heteroatom such as oxygen, sulfur, or nitrogen groupings in linear, branched, or cyclic structural formats; Z and X are independently and preferably a heteroatom such as oxygen, sulfur, or nitrogen groupings in linear, branched, or cyclic structural formats; and Z' may a hydrogen atom, a halogen atom, a hydroxyl group, or any other organic groups or groupings which optionally include a heteroatom such as oxygen, sulfur, or nitrogen groupings in linear, branched, or cyclic structural formats.

Excerpt(s): This application claims priority to U.S. Provisional Patent Application No. 60/297,875 filed Jun. 13, 2001. The present inventions are generally in the fields of pharmaceutically active lactones, their pharmaceutical formulations, and method of use thereof, and methods for the synthetic preparation of chemically functionalized lactones useful therefor as anticancer and antiinfective agents. Despite the development of many different compounds which are useful in the treatment of infection, cancer, and other disorders, there remains a need for the development of new compounds which may be effective at lower dosages, more selective, having fewer side effects or capable of treating diseases or disorders where resistance to the known compounds has developed. Chemotherapeutic agents are used for the treatment of infections, cancer, abnormal proliferation disorders (endometriosis, restenosis, psoriasis), and other disorders. Most chemotherapeutic agents have side effects due to lack of specificity. For example, cancer is one of the leading causes of death. One of the primary modes of treating cancer, chemotherapy, is used specifically to limit cell growth and replication. Most chemotherapy agents also affect neoplastic and rapid proliferating cells of normal tissues (e.g., bone marrow, hair follicles, etc.), which results in several negative side effects including hair loss, nausea, vomiting, and suppression of bone marrow function. Moreover, effectiveness of these agents frequently diminishes over time due to the development of resistance.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Method for screening the risk of gastric cancer**

  Inventor(s): Harkonen, Matti; (Espoo, FI)

  Correspondence: Birch Stewart Kolasch & Birch; PO Box 747; Falls Church; VA; 22040-0747; US

  Patent Application Number: 20010039025

  Date filed: March 14, 2001

  Abstract: Method for screening the risk for **gastric cancer** using, in combination, the determination of serum pepsinogen I, gastrin-17 and the supporting determination of Helicobacter pylori antibodies from blood serum, in order to detect either atrophy of the corpus area, atrophy of the antrum area or atrophy of the mucosa of the whole stomach as well as a causative Helicobacter pylori infection, whereby the risk for **gastric cancer** can be evaluated and the necessary gastroscopy and follow-up can be planned.

Excerpt(s): This application is a continuation application of Ser. No. 08/857,460, filed May 16, 1997, which is a continuation-in-part of PCT international application No. PCT/F195/00634, which has an international filing date of Nov. 15, 1995, which designated the United States, the entire contents of which are hereby incorporated by reference. In the following background information is presented relating to methods for screening for the risk of **gastric cancer,** primarily using pepsinogen I and gastrin-17 determination from a blood sample. Although the occurrence of new cases of **gastric cancer** has diminished in the recent years, **gastric cancer** is still one of the most common malignancies. In Finland, approximately 250 to 300 new cases of cancer/one million people/year are registered. In the age group of people above 50, there are an estimated 2350 cases of **stomach cancer,** which is about 3 per mille of the age group population (Finnish Cancer Registry--The Institute for Statistical and Epidemiological Cancer Research 1993). In addition to Finland, there is a high **gastric cancer** incidence in Iceland, South America and especially in Japan.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Method for using thymosin beta-10 for gene therapy of solid malignant tumors**

  Inventor(s): Kim, Seung-Hoon; (Seoul, KR), Lee, Je-Ho; (Seoul, KR)

  Correspondence: Gates & Cooper Llp; Howard Hughes Center; 6701 Center Drive West, Suite 1050; Los Angeles; CA; 90045; US

  Patent Application Number: 20030099617

  Date filed: August 30, 2002

  Abstract: A method for using thymosin.beta.-10 for cancer treatment by expressing thymosin.beta.-10 in solid malignant tumor cells. More precisely, the present invention relates to a cancer treatment method wherein thymosin.beta.-10 is expressed in solid malignant tumor cells by infecting adenovirus including thymosin.beta.-10. The gene therapy for cancer using thymosin.beta.-10 of the present invention is very effective for the treatment of ovarian cancer, cervical cancer, **stomach cancer** and lung cancer.

  Excerpt(s): This application claims the benefit of priority to Korean Patent Application No. 2001-63524, filed Oct. 10, 2001, the entire contents of which are incorporated herein by reference. The present invention relates to a method for using thymosin.beta.-10 for cancer treatment by expressing thymosin.beta.-10 in solid malignant tumor cells. More precisely, the present invention relates to a cancer treatment method wherein thymosin.beta.-10 is expressed in solid malignant tumor cells by infecting adenovirus including thymosin.beta.-10. The gene therapy for cancer using thymosin.beta.-10 of the present invention is very effective for the treatment of ovarian cancer, cervical cancer, **stomach cancer** and lung cancer. Gene therapy is a kind of treatment for genetic diseases and cancers caused by aberration of genes, whose mechanism is to introduce disease-related genes directly to patients in order to normalize the cell function by expressing those genes inside cells. Gene therapy is very effective not only for the treatment of diseases, but also for prevention of many diseases and even more reinforcing the treatment since the therapy can bestow new function on human body by introducing a specific gene.

  Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Peptide capable of inducing immune response to human gastric cancer and agent for preventing or treating human gastric cancer, containing the peptide**

  Inventor(s): Hamuro, Junji; (Kawasaki-shi, JP), Kikuchi, Kokichi; (Sapporo-shi, JP), Sahara, Hiromitsu; (Rishiri-gun, JP), Sato, Noriyuki; (Sapporo-shi, JP), Suzuki, Manabu; (Kawasaki-shi, JP), Wada, Yoshimasa; (Sapporo-shi, JP), Yasojima, Takahiro; (Setana-gun, JP)

  Correspondence: Oblon Spivak Mcclelland Maier & Neustadt PC; Fourth Floor; 1755 Jefferson Davis Highway; Arlington; VA; 22202; US

  Patent Application Number: 20030186406

  Date filed: January 8, 2002

  Abstract: A peptide that induces CTL against human **gastric cancer** cells is provided. A peptide having a specific amino-acid sequence and induces cytotoxic T cells that targets **gastric cancer** cells may be used as an agent for preventing or treating **gastric cancer.**

  Excerpt(s): The present invention relates to a peptide capable of inducing CTL (Cytotoxic T Lymphocytes; refer to Medical Immunology, revised 3rd edition, compiled by Kikuchi Kokichi) to human gastric cells in vivo or in vitro, and to a DNA encoding this peptide. More specifically, the present invention relates to a peptide capable of presenting CTL to human gastric cells by being bound to HLA-A31 antigen (Human Leucocyte Antigen; refer to Modern Immunology, 2nd edition, compiled by Yamamura Yuichi and Tada Tomio), and to a DNA encoding the peptide. The present invention further relates to an agent useful for preventing or treating human **gastric cancer,** the agent containing a peptide capable of inducing CTL to a human **gastric cancer** cell in vivo or in vitro, and to a vaccine for preventing or treating human **gastric cancer,** the vaccine containing a recombinant virus or a recombinant bacterium having a DNA encoding such a peptide. For pharmacotherapy of malignant tumors, a chemotherapeutic agent which directly impairs tumor cells or an immunotherapeutic agent with which treatment is conducted by non-specifically activating an immunity of a host and enhancing a bioprotective function of the host has been used. However, there is currently no agent with which malignant tumors, above all, tumors of the digestive tract can completely be cured.

  Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Pharmaceutical preparations and methods for inhibiting tumors**

  Inventor(s): Baijal-Gupta, Madhulika; (London, CA), Fraser, Jennifer; (London, CA), Garde, Seema; (Montreal, CA), Kadhim, Salam; (Kirkland, CA), Panchal, Chandra; (London, CA)

  Correspondence: Timothy E. Nauman, ESQ.; Fay, Sharpe, Fagan,; Minnich & Mckee, Llp; 1100 Superior Avenue, 7th Floor; Cleveland; OH; 44114-2516; US

  Patent Application Number: 20030170220

  Date filed: October 15, 2001

  Abstract: The invention provides pharmaceutical compositions and method for inhibiting growth of prostatic adenocarcinoma, **stomach cancer,** breast cancer, endometrial, ovarian or other cancers of epithelial secretion, or benign prostate hyperplasia (BPH). In one embodiment the pharmaceutical composition includes human rHuPSP94, antigenic portions thereof, and functionally equivalent polypeptides thereof.

In another embodiment, the pharmaceutical composition includes a mixture of human rHuPSP94, antigenic portions thereof, and functionally equivalent polypeptides thereof and an anticancer drug which may be administered in an appropriate dosage form, dosage quantity and dosage regimen to a patient suffering from, for example of prostatic adenocarcinoma, **stomach cancer,** breast cancer, endometrial, ovarian or other cancers of epithelial secretion, benign prostate hyperplasia, or (BPH) gastrointestinal cancer. The anticancer drug of the latter mixture may be one selected from the group of drugs including mitomycin, idarubicin, cisplatin, 5-fluoro-uracil, methotrexate, adriamycin, daunomycin, taxol, taxol derivative, and mixtures thereof.

Excerpt(s): The present invention relates to pharmaceutical preparations (i.e., composition) for use as tumor suppressive agents for tumors arising from cancers such as prostatic adenocarcinoma, **stomach cancer,** breast cancer, endometrial and ovarian cancers, and benign prostate hyperplasia (BPH). The prostate gland, which is found exclusively in male mammals, produces several components of semen and blood and several regulatory peptides. The prostate gland comprises stroma and epithelium cells, the latter group consisting of columnar secretory cells and basal nonsecretory cells. A proliferation of these basal cells as well as stroma cells gives rise to benign prostatic hyperplasia (BPH), which is one common prostate disease. Another common prostate disease is prostatic adenocarcinoma (CaP), which is the most common of the fatal pathophysiological prostate cancers, and involves a malignant transformation of epithelial cells in the peripheral region of the prostate gland. Prostatic adenocarcinoma and benign prostatic hyperplasia are two common prostate diseases, which have a high rate of incidence in the aging human male population. Approximately one out of every four males above the age of 55 suffers from a prostate disease of some form or another. Prostate cancer is the second most common cause of cancer related death in elderly men, with approximately 96,000 cases diagnosed and about 26,000 deaths reported annually in the United States. Studies of the various substances synthesized and secreted by normal, benign and cancerous prostates carried out in order to gain an understanding of the pathogenesis of the various prostate diseases reveal that certain of these substances may be used as immunohistochemical tumor markers in the diagnosis of prostate disease. The three predominant proteins or polypeptides secreted by a normal prostate gland are: (1) Prostatic Acid Phosphatase (PAP); (2) Prostate Specific Antigen (PSA); and, (3) Prostate Secretory Protein of 94 amino acids (PSP94), which is also known as Prostatic Inhibin Peptide (PIP), Human Seminal Plasma Inhibin (HSPI), or.beta.-microseminoprotein (.beta.-MSP), and which is hereinafter referred to as PSP94.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Therapeutical treatments**

Inventor(s): Vetvicka, Vaclav; (Louisville, KY), Yvin, Jean-Claude; (Saint-Malo, FR)

Correspondence: John S. Pratt, Esq; Kilpatrick Stockton, Llp; 1100 Peachtree Street; Suite 2800; Atlanta; GA; 30309; US

Patent Application Number: 20030119780

Date filed: November 30, 2001

Abstract: Therapeutical method comprising administration to a patient of an effective amount of especially soluble laminarin for the treatment of tumors and more generally of cancers of the group comprising breast cancer, lung cancer, oesophagus cancer, **stomach cancer,** intestine and colon cancers, and for the treatment of viral, bacterial and

fungal diseases as well as diseases related to immunostimulant deficiencies of human beings and warm-blood animals.

Excerpt(s): The invention relates to therapeutical treatments. More particularly it relates to therapeutical treatments based on the immunostimulant antitumoral and cytokine synthesis-inducing and -accelerating activities of laminarin, especially of soluble laminarin, a well known glucan, which activities were surprisingly and unexpectedly discovered by the Applicants in the course of extensive and thorough studies and searches and on which are founded the hereafter disclosed and claimed applications and uses. The therapeutical treatments in question are intended to treat cancers, viral, bacterial and fungal diseases as well as diseases related to immunostimulant deficiencies of human beings and warm-blood animals.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

- **Treatment of helicobacter with isothiocyanates**

Inventor(s): Fahey, Jed W.; (Eldersburg, MD)

Correspondence: Richard C. Peet; Foley & Lardner; Washington Harbour; 3000 K Street, N.W., Suite 500; Washington; DC; 20007-5109; US

Patent Application Number: 20020151505

Date filed: August 21, 2001

Excerpt(s): The present invention relates to methods of preventing or inhibiting the growth of Helicobacter through the use of a composition that comprises a glucosinolate, an isothiocyanate or a derivative or metabolite thereof. The present invention also relates to methods of preventing or treating persistent chronic gastritis, ulcers and/or **stomach cancer** in subjects at risk for, or in need of treatment thereof. Stomach cancer is the second most common form of cancer worldwide. Helicobacter pylori is a microaerophilic, gram-negative bacterium of cosmopolitan distribution that causes persistent chronic gastritis. Carriers of H. pylori (in gastric mucosa) are at 3 to 6 times the risk for developing **stomach cancer** (gastric adenocarcinoma and mucosa-associated lymphoid tissue lymphoma) as non-carriers (J. Danesh et al., Cancer Surveys, 33:263-289 (1999); D. Forman et al., Br Med Bull, 54:71-78 (1998); S. Hansen et al., Scand J Gastroenterol, 34:353-360 (1999); J-Q Huang et al., Gastroenterology, 114:1169-1179(1998)). H. pylori causes inflammation of stomach tissue in carriers, resulting in increased blood flow, swelling and irritation. Inflammation of the lower part of the stomach leads to ulcers in about 10% of carriers. Inflammation of the upper part of the stomach leads to impaired acid secretion and ultimate die-off of acid-producing cells and leads to reduced stomach function and ultimately to cancer. Helicobacter pylori was only first described following its cultivation from human gastric biopsy specimens in 1982 (J R Warren et al., Lancet, (1983), 1:1273-1275; B J Marshall et al., Microbios Lett. (1984), 25:83-88). Since then, as many as 26 related Helicobacter species have been described colonizing the mucosal surfaces of humans and other animals (J V Solnick, D B Schauer, Clin Microbiol Rev, (2001), 14:59-97). These organisms not only colonize gastric tissues of mammals, but are found in the intestinal tract and the liver of birds, as well as in mammals including humans, mice, ferrets, gerbils, dogs and cats. They have been implicated as agents responsible for inflammation, and in malignant transformation in immunocompetent hosts as well as immunocompromised humans and animals. However, H. pylori is now well-documented as one of the most prevalent human pathogens worldwide (R M Genta et al., Virchows Arch, 425:339-347 (1994)), and the causal agent for most gastric and duodenal ulcers, as well as a risk factor for the

development of **gastric cancer** (J Danesh, Cancer Surveys, 33:263-289 (1999)). The human stomach is the only known natural reservoir for H. pylori, although many mammalian species can be infected by related species. Antibiotic therapy aimed at eradication of H. pylori (e.g. amoxycillin and clarithromycin plus the H.sub.2 inhibitor omeprazol for 10-14 days) is now recommended for infected patients who have verified peptic ulcerations of the stomach or duodenum or who have gastric mucosa-associated lymphoid tissue lymphomas, and cure rates are on the order of 90% (Helicobacter Foundation, "Treatment of Helicobacter pylori, p. 1-5 (1998)). However, a complex antibiotic therapy as described above may not be available in developing countries, where H. pylori infection rates can be as high as 70% of the population.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

Keeping Current

In order to stay informed about patents and patent applications dealing with stomach cancer, you can access the U.S. Patent Office archive via the Internet at the following Web address: **http://www.uspto.gov/patft/index.html**. You will see two broad options: (1) Issued Patent, and (2) Published Applications. To see a list of issued patents, perform the following steps: Under "Issued Patents," click "Quick Search." Then, type "stomach cancer" (or synonyms) into the "Term 1" box. After clicking on the search button, scroll down to see the various patents which have been granted to date on stomach cancer.

You can also use this procedure to view pending patent applications concerning stomach cancer. Simply go back to **http://www.uspto.gov/patft/index.html**. Select "Quick Search" under "Published Applications." Then proceed with the steps listed above.

CHAPTER 7. BOOKS ON STOMACH CANCER

Overview

This chapter provides bibliographic book references relating to stomach cancer. In addition to online booksellers such as **www.amazon.com** and **www.bn.com**, excellent sources for book titles on stomach cancer include the Combined Health Information Database and the National Library of Medicine. Your local medical library also may have these titles available for loan.

Book Summaries: Federal Agencies

The Combined Health Information Database collects various book abstracts from a variety of healthcare institutions and federal agencies. To access these summaries, go directly to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. You will need to use the "Detailed Search" option. To find book summaries, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer. For the format option, select "Monograph/Book." Now type "stomach cancer" (or synonyms) into the "For these words:" box. You should check back periodically with this database which is updated every three months. The following is a typical result when searching for books on stomach cancer:

- **PDR for Herbal Medicines. 1st ed**

  Source: Montvale, NJ: Medical Economics Company. 1998. 1244 p.

  Contact: Available from Medical Economics Publishing Inc. P.O. Box 10689, Des Moines, IA 50336. (800) 922-0937. Fax (515) 284-6714. Website: www.medecbookstore.com. PRICE: $59.99. ISBN: 1563632926.

  Summary: Most of today's herbal remedies exhibit varying degrees of therapeutic value. Some, such as ginkgo, valerian, and saw palmetto, seem genuinely useful, while others, such as ephedra, tansy, and nightshade, can actually be dangerous. As the use of unfamiliar botanicals spreads, the need to steer patients toward the few truly useful preparations and warn them away from ineffective, dangerous alternatives is becoming an increasingly significant priority. This volume, from the publishers of Physicians Desk Reference, brings together the findings of the German Regulatory Authority's herbal

watchdog agency (commonly caused Commission E). This agency conducted an intensive assessment of the peer-reviewed literature on some 300 common botanicals, weighing the quality of the clinical evidence and identifying the uses for which the herb can reasonably be considered effective. This reference book contains profiles of over 600 medicinal herbs. Each entry contains up to 9 standard sections: name(s), description, actions and pharmacology, indications and usage, contraindications, precautions and adverse reactions, overdosage, dosage, and literature. The entries have also been indexed by scientific and common name, indications, therapeutic category, and side effects. To assist in identification, the reference book includes a section of full-color plates of the plants included. The book concludes with a glossary of the specialized botanical nomenclature and other unfamiliar terminology, a list of poison control centers, and a list of drug information centers. Some of the herbs are listed for use for abdominal cramps or distress, acid indigestion, appetite stimulation, rectal bleeding, various bowel disorders, **stomach cancer,** cholelithiasis (gallstones), colic, colitis, constipation, dehydration, diarrhea, digestive disorders, dysentery, enteritis, anal fissure, flatulence (intestinal gas), gastritis, gastroenteritis, gastrointestinal disorders, gout, helminthiasis, hemorrhage, hemorrhoids, hepatitis, hypercholesterolemia, jaundice, liver and gall bladder complaints, liver disorders, malaria, nausea, abdominal pain, and vomiting.

- **Medical Advisor Home Edition: The Complete Guide to Alternative and Conventional Treatments**

  Source: Alexandria, VA: Time-Life Books. 1997. 960 p.

  Contact: Available from Time-Life Books. 400 Keystone Industrial Park, Dunsmore, PA 18512. PRICE: $20.00. ISBN: 0783552505.

  Summary: This book offers information about 300 health problems, ranging from relatively benign conditions to the most serious diseases. There are symptoms charts which name several related problems and help readers decide which ailment entry to look up. Ailment entries provide a more complete list of symptoms, plus guidelines to discern whether the condition is potentially serious or requires a doctor's attention. Each entry describes the ailment and how it affects the body. Next, the entry outlines the underlying causes of the ailment and the tests and procedures a doctor may use to confirm the diagnosis. The treatment segment presents conventional and alternative recommendations for curing the problem or alleviating the symptoms. Most ailment entries conclude with advice on preventive measures that can be used to maintain health. Alternative treatments discussed include bodywork, acupuncture and acupressure, herbal therapies, homeopathy, lifestyle changes, and nutrition and diet. The book begins with a section on emergency medicine. Also included is a visual diagnostic guide, an atlas to the body, a medicine chest section (describing herbs, homeopathic remedies, and over the counter drugs), a glossary, a subject index, a bibliography, and a list of health associations and organizations. Topics related to digestive diseases include abdominal pain, AIDS, allergies, anal bleeding, anal fissure, anorexia nervosa, bad breath, bowel movement abnormalities, bulimia, celiac disease, cholesterol problems, colitis, colorectal cancer, constipation, Crohn's disease, diarrhea, diverticulitis, flu, food poisoning, gallstones, gas and gas pains, gastritis, gastroenteritis, heartburn, hiatal hernia, hiccups, incontinence, indigestion, irritable bowel syndrome, lactose intolerance, lupus, obesity, pancreatic cancer, pancreatic problems, **stomach cancer,** stomach ulcers, swallowing difficulty, trichomoniasis, vomiting, and worms. The book is illustrated with line drawings and full-color photographs.

Book Summaries: Online Booksellers

Commercial Internet-based booksellers, such as Amazon.com and Barnes&Noble.com, offer summaries which have been supplied by each title's publisher. Some summaries also include customer reviews. Your local bookseller may have access to in-house and commercial databases that index all published books (e.g. Books in Print®). **IMPORTANT NOTE:** Online booksellers typically produce search results for medical and non-medical books. When searching for "stomach cancer" at online booksellers' Web sites, you may discover non-medical books that use the generic term "stomach cancer" (or a synonym) in their titles. The following is indicative of the results you might find when searching for "stomach cancer" (sorted alphabetically by title; follow the hyperlink to view more details at Amazon.com):

- **21st Century Complete Medical Guide to Stomach Cancer (Gastric Cancer) - Authoritative Government Documents and Clinical References for Patients and Physicians with Practical Information on Diagnosis and Treatment Options** by PM Medical Health News; ISBN: 1592480160; http://www.amazon.com/exec/obidos/ASIN/1592480160/icongroupinterna
- **Early gastric cancer** by Tadashige Murakami; ISBN: 0839106483; http://www.amazon.com/exec/obidos/ASIN/0839106483/icongroupinterna
- **Early gastric cancer: current status of diagnosis**; ISBN: 0387068023; http://www.amazon.com/exec/obidos/ASIN/0387068023/icongroupinterna
- **Gastric Cancer** by Takashi Sugimura (Editor), et al (1997); ISBN: 0192626205; http://www.amazon.com/exec/obidos/ASIN/0192626205/icongroupinterna
- **Gastric cancer**; ISBN: 4431701273; http://www.amazon.com/exec/obidos/ASIN/4431701273/icongroupinterna
- **Gastric Cancer** by H. Ichikawa, et al; ISBN: 0387701273; http://www.amazon.com/exec/obidos/ASIN/0387701273/icongroupinterna
- **Gastric Cancer (Contemporary Issues in Clinical Oncology, Vol 8)** by Harold O. Jr. Douglas (Editor) (1988); ISBN: 0443085366; http://www.amazon.com/exec/obidos/ASIN/0443085366/icongroupinterna
- **Gastric Carcinoma (Current Problems in Tumour Pathology Series)** by M. Isabel Filipe, Jeremy R. Jass (Editor); ISBN: 0443031665; http://www.amazon.com/exec/obidos/ASIN/0443031665/icongroupinterna
- **Gastric Carcinoma: Classification, Diagnosis, and Therapy** by Jurgen Hotz, et al (1989); ISBN: 0387969551; http://www.amazon.com/exec/obidos/ASIN/0387969551/icongroupinterna
- **Histogenesis and Precursors of Human Gastric Cancer** (1986); ISBN: 3540153144; http://www.amazon.com/exec/obidos/ASIN/3540153144/icongroupinterna
- **Histogenesis and Precursors of Human Gastric Cancer: Research and Practice** by Takeo Nagayo (1986); ISBN: 0387153144; http://www.amazon.com/exec/obidos/ASIN/0387153144/icongroupinterna
- **Management of Gastric Cancer (Cancer Treatment and Research, 55)** by Paul H. Sugarbaker (Editor) (1991); ISBN: 0792311027; http://www.amazon.com/exec/obidos/ASIN/0792311027/icongroupinterna

- **Multimodality Therapy for Gastric Cancer: Appendix: Database of the Cancer Institute Hospital** by T. Nakajima (Editor), T. Yamaguchi (Editor); ISBN: 4431702555; http://www.amazon.com/exec/obidos/ASIN/4431702555/icongroupinterna
- **New Trends in Gastric Cancer: Background and Videosurgery** by Belinda J. Johnston, et al (1990); ISBN: 0792389174; http://www.amazon.com/exec/obidos/ASIN/0792389174/icongroupinterna
- **Precursors of Gastric Cancer** (1984); ISBN: 0030639697; http://www.amazon.com/exec/obidos/ASIN/0030639697/icongroupinterna
- **Precursors of Gastric Cancer.** by Si-Chun Ming (Author) (1984); ISBN: 0275914445; http://www.amazon.com/exec/obidos/ASIN/0275914445/icongroupinterna
- **Radiodiagnosis of Endophytic Gastric Cancer** by L. M. Portnoi, M. P. Dibirov; ISBN: 1567000282; http://www.amazon.com/exec/obidos/ASIN/1567000282/icongroupinterna
- **Stomach cancer : a series of workshops on the biology of human cancer : report no. 6**; ISBN: 929018034X; http://www.amazon.com/exec/obidos/ASIN/929018034X/icongroupinterna
- **What you need to know about stomach cancer (SuDoc HE 20.3152:ST 6/993)** by U.S. Dept of Health and Human Services; ISBN: B00010L9L8; http://www.amazon.com/exec/obidos/ASIN/B00010L9L8/icongroupinterna

The National Library of Medicine Book Index

The National Library of Medicine at the National Institutes of Health has a massive database of books published on healthcare and biomedicine. Go to the following Internet site, **http://locatorplus.gov/**, and then select "Search LOCATORplus." Once you are in the search area, simply type "stomach cancer" (or synonyms) into the search box, and select "books only." From there, results can be sorted by publication date, author, or relevance. The following was recently catalogued by the National Library of Medicine:[11]

- **Atlas of X-ray diagnosis of early gastric cancer, by Hikoo Shirakabe [et al.** Author: Shirakabe, Hikoo.; Year: 2001; Philadelphia, Lippincott [1966]
- **Cancer of the stomach; a clinical study of 921 operatively and pathologically demonstrated cases, by Frank Smithies. With a chapter on the Surgical treatment of gastric cancer, by Albert J. Ochsner.** Author: Smithies, Frank,; Year: 1984; Philadelphia and London, W. B. Saunders company, 1916
- **Early gastric cancer: a contribution to the pathology and to gastric cancer histogenesis** Author: Johansen, Aage.; Year: 1997; Copenhagen: Dept. of Pathology, Bispebjerg Hospital, 1981

[11] In addition to LOCATORPlus, in collaboration with authors and publishers, the National Center for Biotechnology Information (NCBI) is currently adapting biomedical books for the Web. The books may be accessed in two ways: (1) by searching directly using any search term or phrase (in the same way as the bibliographic database PubMed), or (2) by following the links to PubMed abstracts. Each PubMed abstract has a "Books" button that displays a facsimile of the abstract in which some phrases are hypertext links. These phrases are also found in the books available at NCBI. Click on hyperlinked results in the list of books in which the phrase is found. Currently, the majority of the links are between the books and PubMed. In the future, more links will be created between the books and other types of information, such as gene and protein sequences and macromolecular structures. See **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books**.

- **Early gastric cancer; current status of diagnosis. Edited by E. Grundmann, H. Grunze [and] S. Witte.** Author: Grunze, Heinz.; Year: 1907; Berlin, New York, Springer-Verlag, 1974; ISBN: 3540068023
- **End-results in the treatment of gastric cancer; an analytical study and statistical survey of sixty years of surgical treatment, by Edward M. Livingston. and George T. Pack. with a foreword by Bowman C. Crowell.** Author: Livingston, Edward Meakin,; Year: 1903; New York, P. B. Hoeber, inc. [c1939]
- **Epidemiological, experimental, and clinical studies on gastric cancer; proceedings of the International Conference on Gastric Cancer, Nagoya, Japan, November 2-3, 1966. Editors: Riojun Kinoshita, Takeo Nagayo [and] Tatsuya Tanaka.** Author: Kinoshita, Ry¯ojun,; Year: 1964; Tokyo, Maruzen [1968]
- **Gastric cancer** Author: Herfarth, Christian,; Year: 2001; Berlin; New York: Springer-Verlag, 1979; ISBN: 0387094679 http://www.amazon.com/exec/obidos/ASIN/0387094679/icongroupinterna
- **Gastric cancer: proceedings of the International Symposium on Gastric Cancer, Birmingham, 22-23 September 1980** Author: Fielding, J. W. L.; Year: 2002; Oxford; New York: Pergamon Press, 1981; ISBN: 0080263984 http://www.amazon.com/exec/obidos/ASIN/0080263984/icongroupinterna
- **Results of surgery in the treatment of gastric cancer; a clinical study of 987 cases, by S. J. Viikari [et al.].** Author: Viikari, Sauli Johannes.; Year: 1967; Helsinki, Societas Medicorum Fennica Duodecim, 1962
- **The present status of diagnosis and treatment of cancer in countries participating in WHO-CC for stomach cancer: proceedings of the WHO-CC General Meeting, Tokyo, October 4-6, 1979** Author: Ichikawa, Heizabur¯o,; Year: 1999; Tokyo, Japan: WHO Collaborating Center for Evaluation of Methods of Diagnosis and Treatment of

Chapters on Stomach Cancer

In order to find chapters that specifically relate to stomach cancer, an excellent source of abstracts is the Combined Health Information Database. You will need to limit your search to book chapters and stomach cancer using the "Detailed Search" option. Go to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. To find book chapters, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Book Chapter." Type "stomach cancer" (or synonyms) into the "For these words:" box. The following is a typical result when searching for book chapters on stomach cancer:

- **Helicobacter Pylori: Epidemiology and Pathogenesis**

  Source: in Brandt, L., et al., eds. Clinical Practice of Gastroenterology. Volume One. Philadelphia, PA: Current Medicine. 1999. p. 249-254.

  Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Website: www.wbsaunders.com. PRICE: $235.00 plus shipping and handling. ISBN: 0443065209 (two volume set); 0443065217 (volume 1); 0443065225 (volume 2).

  Summary: Helicobacter pylori (H. pylori) is the leading cause of gastric and duodenal ulcers, and it has been associated with gastric neoplasia, both adenocarcinoma and lymphoma (stomach cancers). In most people, however, infection is a symbiotic

situation in which minor histologic changes occur in the gastric mucosa (stomach lining) that are without clinical consequence, despite a lifetime presence of the organism. This chapter on the epidemiology and pathogenesis of H. pylori is from a lengthy textbook that brings practitioners up to date on the complexities of gastroenterology practice, focusing on the essentials of patient care. The author reviews the present understanding of the epidemiology and transmission of H. pylori. The prevalence of H. pylori in the developing world is remarkable in that most of the population is infected. Infection is acquired in childhood, much like most other enteric infections, but H. pylori infection differs in that it is a persistent infection that may last a lifetime yet cause no ill effects in the host. The prevalence of H. pylori infection in the developed world has fallen dramatically during the past 50 years. The most recent data for children suggest that H. pylori will become rare because of improving socioeconomic status and improving sanitation. The routes of infection include oral to oral, fecal to oral, or environmental transmission. Eradication of the organism can reduce the recurrence rate of most duodenal and gastric ulcers, may reduce the incidence of gastric cancer, but is unlikely to have a significant impact on dyspepsia (heartburn). The author concludes that little is known about the mode of transmission of H. pylori or its pathogenesis, but both of these areas are the focus of intense research. 2 figures. 4 tables. 28 references.

- **Abdominal Pain**

  Source: in Carlson, K.J.; Eisenstat, S.A.; Ziporyn, T. Harvard Guide to Women's Health. Cambridge, MA: Harvard University Press. 1996. p. 1-6.

  Contact: Available from Harvard University Press. Customer Service Department, 79 Garden Street, Cambridge, MA 02138. (800) 448-2242. Fax (800) 962-4983. PRICE: $24.95 (paperback). ISBN: 0674367693 (paperback).

  Summary: This chapter on abdominal pain is from a consumer handbook on women's health. The authors discuss the classification and evaluation of abdominal pain and describe causes of pain in different areas. Pain in the lower abdomen may stem from appendicitis, aortic aneurysm, ectopic pregnancy, kidney disorders, bowel disorders, or lactose intolerance. Right upper quadrant pain can be caused by irritable bowel syndrome, liver disease, gallstones and other gallbladder disorders, pancreatic disorders, pneumonia and pleurisy, rib cage pain, or shingles. Pain in the left upper quadrant and midline may be from gastritis, peptic ulcer disease, **stomach cancer,** or enlarged or ruptured spleen. The chapter concludes with a reference to related chapters in the book. 3 figures.

- **Gastric Surgery**

  Source: in Brandt, L., et al., eds. Clinical Practice of Gastroenterology. Volume One. Philadelphia, PA: Current Medicine. 1999. p. 395-403.

  Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Website: www.wbsaunders.com. PRICE: $235.00 plus shipping and handling. ISBN: 0443065209 (two volume set); 0443065217 (volume 1); 0443065225 (volume 2).

  Summary: This chapter on gastric surgery is from a lengthy textbook that brings practitioners up to date on the complexities of gastroenterology practice, focusing on the essentials of patient care. The author reviews the indications for surgery in duodenal ulcer, gastric ulcer, and gastric adenocarcinoma (cancer). Before the advent of effective drug agents (H2 receptor antagonists and proton pump inhibitors), recurrence or intractability of duodenal ulcer was an indication for surgery. In carefully selected

patients, however, a number of surgical procedures can affect acid secretion while minimizing postoperative complications and long term sequelae. Coexisting complications of the ulcer also must be addressed intraoperatively. The indications for surgery in patients with gastric ulcer tend to be the same as for those patients with duodenal ulcer. In patients with **stomach cancer,** the use of more aggressive endoscopic stent placement, laser therapy, and photodynamic therapy may achieve symptomatic improvement without exposing the patient to the morbidity and mortality associated with operative resection (surgery). 11 figures. 20 references.

- **Gastrointestinal System**

  Source: in Kelly, R.B., ed. Family Health and Medical Guide. Dallas, TX: Word Publishing. 1996. p. 169-200.

  Contact: Available from American Academy of Family Physicians. 11400 Tomahawk Creek Parkway, Leawood, KS 66211-2672. (800) 274-2237. Website: www.aafp.org. PRICE: $30.00 for members; $35.00 for non-members; plus shipping and handling. ISBN: 0849908396.

  Summary: This chapter on the gastrointestinal system is from a family health and medical guide. The chapter first describes the anatomy and function of the gastrointestinal tract, including the mouth, esophagus, stomach, small intestine, pancreas, gallbladder, liver, and large intestine. The chapter then covers problems of the gastrointestinal system, such as anal abscesses, fissures, and itching; appendicitis; bowel blockage; carcinoid tumors; colon polyps; colorectal cancer; constipation; Crohn's disease; dehydration; diarrhea; diverticulosis and diverticulitis; esophageal cancer and varices; gas; gastroenteritis; heartburn; hemorrhoids; hernias (hiatal and inguinal); ileus; irritable bowel syndrome (IBS); malabsorption (including celiac disease, lactose intolerance, pernicious anemia, postsurgical malabsorption, and Whipple's disease); peritonitis; proctitis; **stomach cancer;** ulcers; ulcerative colitis; and vomiting. For each topic, the authors discuss symptoms, diagnostic tests, treatment options, and prevention. Numerous sidebars cover home remedies for constipation; symptoms of a serious bowel problem; ways to prevent dehydration in adults; the BRAT (bananas, rice, apples, toast) diet; ways to prevent esophageal cancer, gas, and heartburn; hiccups; and home remedies for irritable bowel, as well as when to call the doctor about nausea or vomiting. 10 figures.

CHAPTER 8. MULTIMEDIA ON STOMACH CANCER

Overview

In this chapter, we show you how to keep current on multimedia sources of information on stomach cancer. We start with sources that have been summarized by federal agencies, and then show you how to find bibliographic information catalogued by the National Library of Medicine.

Bibliography: Multimedia on Stomach Cancer

The National Library of Medicine is a rich source of information on healthcare-related multimedia productions including slides, computer software, and databases. To access the multimedia database, go to the following Web site: **http://locatorplus.gov/**. Select "Search LOCATORplus." Once in the search area, simply type in stomach cancer (or synonyms). Then, in the option box provided below the search box, select "Audiovisuals and Computer Files." From there, you can choose to sort results by publication date, author, or relevance. The following multimedia has been indexed on stomach cancer:

- **Gastric cancer [electronic resource]: diagnosis and treatment: an interactive training program** Source: authors, J. R. Siewert, D. Kelsen, K. Maruyama; co-authors, H. Feussner. [et al.]; Year: 2000; Format: Electronic resource; Berlin; New York: Springer-Verlag, c2000
- **Laparoscopic gastrostomy and enterostomy; Laparoscopic wedge resection of the stomach for early gastric cancer (lesion lifting method) [videorecording].** Year: 1993; Format: Videorecording; [United States]: SAGES, c1993
- **Second primary gastric cancer of the reconstructed esophagus [videorecording]** Source: from the Motion Picture Library of the American College of Surgeons; Year: 1986; Format: Videorecording; Danbury, Conn.: American College of Surgeons, Davis & Geck Surgical Film-Video Library, [1986]
- **The Exfoliative cytologic method in the diagnosis of gastric cancer [motion picture]** Source: produced by Audio Productions, Inc; Year: 1951; Format: Motion picture; United States: American

CHAPTER 9. PERIODICALS AND NEWS ON STOMACH CANCER

Overview

In this chapter, we suggest a number of news sources and present various periodicals that cover stomach cancer.

News Services and Press Releases

One of the simplest ways of tracking press releases on stomach cancer is to search the news wires. In the following sample of sources, we will briefly describe how to access each service. These services only post recent news intended for public viewing.

PR Newswire

To access the PR Newswire archive, simply go to **http://www.prnewswire.com/**. Select your country. Type "stomach cancer" (or synonyms) into the search box. You will automatically receive information on relevant news releases posted within the last 30 days. The search results are shown by order of relevance.

Reuters Health

The Reuters' Medical News and Health eLine databases can be very useful in exploring news archives relating to stomach cancer. While some of the listed articles are free to view, others are available for purchase for a nominal fee. To access this archive, go to **http://www.reutershealth.com/en/index.html** and search by "stomach cancer" (or synonyms). The following was recently listed in this archive for stomach cancer:

- **NSAIDs may have anti-gastric cancer effect**
  Source: Reuters Medical News
  Date: December 03, 2003

- **Aspirin may help prevent stomach cancer**
  Source: Reuters Health eLine
  Date: December 03, 2003
- **A few main risk factors account for stomach cancer**
  Source: Reuters Health eLine
  Date: September 19, 2003
- **Aventis' Taxotere boosts stomach cancer survival.**
  Source: Reuters Industry Breifing
  Date: June 02, 2003
- **H3 acquires clinical-stage stomach cancer drug from OncoMab**
  Source: Reuters Industry Breifing
  Date: March 17, 2003
- **Gene, ulcer bug types linked to stomach cancer**
  Source: Reuters Health eLine
  Date: November 19, 2002
- **Smoking appears to raise stomach cancer risk, contrary to previous findings**
  Source: Reuters Medical News
  Date: October 08, 2002
- **Many stomach cancer cases caused by tobacco use**
  Source: Reuters Health eLine
  Date: October 08, 2002
- **Aphton files to fast track G17DT for treatment of stomach cancer**
  Source: Reuters Industry Breifing
  Date: August 21, 2002
- **Anti-gastrin agent improves response to chemotherapy for gastric cancer**
  Source: Reuters Medical News
  Date: July 31, 2002
- **Research IDs gene that suppresses stomach cancer**
  Source: Reuters Health eLine
  Date: April 04, 2002
- **Folic acid prevents stomach cancer: study**
  Source: Reuters Health eLine
  Date: December 20, 2001
- **Possible target for stomach cancer therapy found**
  Source: Reuters Health eLine
  Date: December 13, 2001
- **Blood test could help detect stomach cancer risk**
  Source: Reuters Health eLine
  Date: October 24, 2001
- **Bacterial infection again linked to stomach cancer**
  Source: Reuters Health eLine
  Date: September 12, 2001
- **Chemo plus surgery may up stomach cancer survival**
  Source: Reuters Health eLine
  Date: September 05, 2001

- **Hormone marker may predict stomach cancer**
  Source: Reuters Health eLine
  Date: April 26, 2001
- **Cereal fiber may protect against stomach cancer**
  Source: Reuters Health eLine
  Date: March 13, 2001
- **Green tea may not prevent stomach cancer: study**
  Source: Reuters Health eLine
  Date: February 28, 2001
- **Treating ulcer bug may cut stomach cancer risk**
  Source: Reuters Health eLine
  Date: December 05, 2000
- **Antioxidant supplements or anti-H. pylori therapy may prevent gastric cancer**
  Source: Reuters Medical News
  Date: December 05, 2000
- **Stomach cancer not as lethal in Asian Americans**
  Source: Reuters Health eLine
  Date: November 07, 2000
- **Chemotherapy plus radiation boosts survival after gastric cancer surgery**
  Source: Reuters Medical News
  Date: October 25, 2000
- **Postsurgical chemoradiation greatly improves survival of stomach cancer patients**
  Source: Reuters Medical News
  Date: May 24, 2000
- **Combination treatment prolongs stomach cancer survival**
  Source: Reuters Health eLine
  Date: May 23, 2000
- **Altered gene could be harbinger of stomach cancer**
  Source: Reuters Health eLine
  Date: April 27, 2000
- **Genes linked to increased risk of stomach cancer**
  Source: Reuters Health eLine
  Date: March 22, 2000
- **CagA-positive H. pylori infection, family history raise risk of stomach cancer**
  Source: Reuters Medical News
  Date: January 14, 2000
- **H. pylori plays critical role in familial gastric cancer**
  Source: Reuters Medical News
  Date: January 03, 2000
- **Aspirin, other NSAIDs help prevent gastric cancer**
  Source: Reuters Medical News
  Date: August 12, 1999
- **Aspirin may prevent stomach cancer**
  Source: Reuters Health eLine
  Date: August 11, 1999

- **H. pylori CagA gene associated with increased risk of stomach cancer in under-40s**
  Source: Reuters Medical News
  Date: June 15, 1999
- **Ulcer bacteria strain triples stomach cancer risk**
  Source: Reuters Health eLine
  Date: June 14, 1999
- **Cigarette smoking may contribute to high stomach cancer rate in Poland**
  Source: Reuters Medical News
  Date: June 11, 1999
- **Salty snacks tied to stomach cancer risk**
  Source: Reuters Health eLine
  Date: May 17, 1999
- **H. pylori not sole cause of gastric cancer**
  Source: Reuters Health eLine
  Date: September 14, 1998
- **Gene Linked To Stomach Cancer**
  Source: Reuters Health eLine
  Date: March 25, 1998
- **Lack Of Gene Hikes Stomach Cancer Risk**
  Source: Reuters Health eLine
  Date: January 14, 1998
- **Some Jobs Carry Gastric Cancer Risk**
  Source: Reuters Health eLine
  Date: January 07, 1998
- **Large Number Of Esophageal And Upper Stomach Cancers Attributable To Smoking**
  Source: Reuters Medical News
  Date: September 03, 1997
- **Gastric Ulcers Increase Risk Of Stomach Cancer; H. Pylori Implicated**
  Source: Reuters Medical News
  Date: July 25, 1996
- **Reduced Risk For Stomach Cancer Seen In Green Tea Drinkers**
  Source: Reuters Medical News
  Date: June 17, 1996
- **Survival Rates For Gastric Cancer In U.S. And Japan: Differences Explained**
  Source: Reuters Medical News
  Date: February 26, 1996
- **Consumption Of Onions Protects Against Stomach Cancer**
  Source: Reuters Medical News
  Date: January 30, 1996
- **Japanese And Western Patients With Stomach Cancer Share Similar Gene Mutations**
  Source: Reuters Medical News
  Date: March 09, 1995

The NIH

Within MEDLINEplus, the NIH has made an agreement with the New York Times Syndicate, the AP News Service, and Reuters to deliver news that can be browsed by the public. Search news releases at **http://www.nlm.nih.gov/medlineplus/alphanews_a.html**. MEDLINEplus allows you to browse across an alphabetical index. Or you can search by date at the following Web page: **http://www.nlm.nih.gov/medlineplus/newsbydate.html**. Often, news items are indexed by MEDLINEplus within its search engine.

Business Wire

Business Wire is similar to PR Newswire. To access this archive, simply go to **http://www.businesswire.com/**. You can scan the news by industry category or company name.

Market Wire

Market Wire is more focused on technology than the other wires. To browse the latest press releases by topic, such as alternative medicine, biotechnology, fitness, healthcare, legal, nutrition, and pharmaceuticals, access Market Wire's Medical/Health channel at **http://www.marketwire.com/mw/release_index?channel=MedicalHealth**. Or simply go to Market Wire's home page at **http://www.marketwire.com/mw/home**, type "stomach cancer" (or synonyms) into the search box, and click on "Search News." As this service is technology oriented, you may wish to use it when searching for press releases covering diagnostic procedures or tests.

Search Engines

Medical news is also available in the news sections of commercial Internet search engines. See the health news page at Yahoo (**http://dir.yahoo.com/Health/News_and_Media/**), or you can use this Web site's general news search page at **http://news.yahoo.com/**. Type in "stomach cancer" (or synonyms). If you know the name of a company that is relevant to stomach cancer, you can go to any stock trading Web site (such as **http://www.etrade.com/**) and search for the company name there. News items across various news sources are reported on indicated hyperlinks. Google offers a similar service at **http://news.google.com/**.

BBC

Covering news from a more European perspective, the British Broadcasting Corporation (BBC) allows the public free access to their news archive located at **http://www.bbc.co.uk/**. Search by "stomach cancer" (or synonyms).

Newsletter Articles

Use the Combined Health Information Database, and limit your search criteria to "newsletter articles." Again, you will need to use the "Detailed Search" option. Go directly

to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. Go to the bottom of the search page where "You may refine your search by." Select the dates and language that you prefer. For the format option, select "Newsletter Article." Type "stomach cancer" (or synonyms) into the "For these words:" box. You should check back periodically with this database as it is updated every three months. The following is a typical result when searching for newsletter articles on stomach cancer:

- **Are Ulcers Contagious?**

  Source: University of California at Berkeley Wellness Letter. 11(4): 1. January 1995.

  Contact: Available from Health Letter Associates. P.O. Box 412, Prince Street Station, New York, NY 10012-0007. (904) 445-6414.

  Summary: This very brief newsletter article presents basic information about Helicobacter pylori (H. pylori) and the role it plays in peptic ulcers. Topics include the discovery of H. pylori; other risk factors for ulcers; **stomach cancer** and H. pylori; the transmission of H. pylori; and the importance of establishing the presence of H. pylori before treatment with antibiotics.

Academic Periodicals covering Stomach Cancer

Numerous periodicals are currently indexed within the National Library of Medicine's PubMed database that are known to publish articles relating to stomach cancer. In addition to these sources, you can search for articles covering stomach cancer that have been published by any of the periodicals listed in previous chapters. To find the latest studies published, go to **http://www.ncbi.nlm.nih.gov/pubmed**, type the name of the periodical into the search box, and click "Go."

If you want complete details about the historical contents of a journal, you can also visit the following Web site: **http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi**. Here, type in the name of the journal or its abbreviation, and you will receive an index of published articles. At **http://locatorplus.gov/**, you can retrieve more indexing information on medical periodicals (e.g. the name of the publisher). Select the button "Search LOCATORplus." Then type in the name of the journal and select the advanced search option "Journal Title Search."

CHAPTER 10. RESEARCHING MEDICATIONS

Overview

While a number of hard copy or CD-ROM resources are available for researching medications, a more flexible method is to use Internet-based databases. Broadly speaking, there are two sources of information on approved medications: public sources and private sources. We will emphasize free-to-use public sources.

U.S. Pharmacopeia

Because of historical investments by various organizations and the emergence of the Internet, it has become rather simple to learn about the medications recommended for stomach cancer. One such source is the United States Pharmacopeia. In 1820, eleven physicians met in Washington, D.C. to establish the first compendium of standard drugs for the United States. They called this compendium the U.S. Pharmacopeia (USP). Today, the USP is a non-profit organization consisting of 800 volunteer scientists, eleven elected officials, and 400 representatives of state associations and colleges of medicine and pharmacy. The USP is located in Rockville, Maryland, and its home page is located at **http://www.usp.org/**. The USP currently provides standards for over 3,700 medications. The resulting USP DI® Advice for the Patient® can be accessed through the National Library of Medicine of the National Institutes of Health. The database is partially derived from lists of federally approved medications in the Food and Drug Administration's (FDA) Drug Approvals database, located at **http://www.fda.gov/cder/da/da.htm**.

While the FDA database is rather large and difficult to navigate, the Phamacopeia is both user-friendly and free to use. It covers more than 9,000 prescription and over-the-counter medications. To access this database, simply type the following hyperlink into your Web browser: **http://www.nlm.nih.gov/medlineplus/druginformation.html**. To view examples of a given medication (brand names, category, description, preparation, proper use, precautions, side effects, etc.), simply follow the hyperlinks indicated within the United States Pharmacopeia (USP).

Commercial Databases

In addition to the medications listed in the USP above, a number of commercial sites are available by subscription to physicians and their institutions. Or, you may be able to access these sources from your local medical library.

Mosby's Drug Consult™

Mosby's Drug Consult™ database (also available on CD-ROM and book format) covers 45,000 drug products including generics and international brands. It provides prescribing information, drug interactions, and patient information. Subscription information is available at the following hyperlink: **http://www.mosbysdrugconsult.com/**.

PDR*health*

The PDR*health* database is a free-to-use, drug information search engine that has been written for the public in layman's terms. It contains FDA-approved drug information adapted from the Physicians' Desk Reference (PDR) database. PDR*health* can be searched by brand name, generic name, or indication. It features multiple drug interactions reports. Search PDR*health* at **http://www.pdrhealth.com/drug_info/index.html**.

Other Web Sites

Drugs.com (**www.drugs.com**) reproduces the information in the Pharmacopeia as well as commercial information. You may also want to consider the Web site of the Medical Letter, Inc. (**http://www.medletter.com/**) which allows users to download articles on various drugs and therapeutics for a nominal fee.

Researching Orphan Drugs

Although the list of orphan drugs is revised on a daily basis, you can quickly research orphan drugs that might be applicable to stomach cancer by using the database managed by the National Organization for Rare Disorders, Inc. (NORD), at **http://www.rarediseases.org/**. Scroll down the page, and on the left toolbar, click on "Orphan Drug Designation Database." On this page (**http://www.rarediseases.org/search/noddsearch.html**), type "stomach cancer" (or synonyms) into the search box, and click "Submit Query." When you receive your results, note that not all of the drugs may be relevant, as some may have been withdrawn from orphan status. Write down or print out the name of each drug and the relevant contact information. From there, visit the Pharmacopeia Web site and type the name of each orphan drug into the search box at **http://www.nlm.nih.gov/medlineplus/druginformation.html**. You may need to contact the sponsor or NORD for further information.

NORD conducts "early access programs for investigational new drugs (IND) under the Food and Drug Administration's (FDA's) approval 'Treatment INDs' programs which allow for a limited number of individuals to receive investigational drugs before FDA marketing approval." If the orphan product about which you are seeking information is approved for

marketing, information on side effects can be found on the product's label. If the product is not approved, you may need to contact the sponsor.

The following is a list of orphan drugs currently listed in the NORD Orphan Drug Designation Database for stomach cancer:

- **G17DT Immunogen**
  http://www.rarediseases.org/nord/search/nodd_full?code=1268

If you have any questions about a medical treatment, the FDA may have an office near you. Look for their number in the blue pages of the phone book. You can also contact the FDA through its toll-free number, 1-888-INFO-FDA (1-888-463-6332), or on the World Wide Web at **www.fda.gov**.

APPENDICES

APPENDIX A. PHYSICIAN RESOURCES

Overview

In this chapter, we focus on databases and Internet-based guidelines and information resources created or written for a professional audience.

NIH Guidelines

Commonly referred to as "clinical" or "professional" guidelines, the National Institutes of Health publish physician guidelines for the most common diseases. Publications are available at the following by relevant Institute[12]:

- Office of the Director (OD); guidelines consolidated across agencies available at **http://www.nih.gov/health/consumer/conkey.htm**
- National Institute of General Medical Sciences (NIGMS); fact sheets available at **http://www.nigms.nih.gov/news/facts/**
- National Library of Medicine (NLM); extensive encyclopedia (A.D.A.M., Inc.) with guidelines: **http://www.nlm.nih.gov/medlineplus/healthtopics.html**
- National Cancer Institute (NCI); guidelines available at **http://www.cancer.gov/cancerinfo/list.aspx?viewid=5f35036e-5497-4d86-8c2c-714a9f7c8d25**
- National Eye Institute (NEI); guidelines available at **http://www.nei.nih.gov/order/index.htm**
- National Heart, Lung, and Blood Institute (NHLBI); guidelines available at **http://www.nhlbi.nih.gov/guidelines/index.htm**
- National Human Genome Research Institute (NHGRI); research available at **http://www.genome.gov/page.cfm?pageID=10000375**
- National Institute on Aging (NIA); guidelines available at **http://www.nia.nih.gov/health/**

[12] These publications are typically written by one or more of the various NIH Institutes.

- National Institute on Alcohol Abuse and Alcoholism (NIAAA); guidelines available at **http://www.niaaa.nih.gov/publications/publications.htm**
- National Institute of Allergy and Infectious Diseases (NIAID); guidelines available at **http://www.niaid.nih.gov/publications/**
- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS); fact sheets and guidelines available at **http://www.niams.nih.gov/hi/index.htm**
- National Institute of Child Health and Human Development (NICHD); guidelines available at **http://www.nichd.nih.gov/publications/pubskey.cfm**
- National Institute on Deafness and Other Communication Disorders (NIDCD); fact sheets and guidelines at **http://www.nidcd.nih.gov/health/**
- National Institute of Dental and Craniofacial Research (NIDCR); guidelines available at **http://www.nidr.nih.gov/health/**
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); guidelines available at **http://www.niddk.nih.gov/health/health.htm**
- National Institute on Drug Abuse (NIDA); guidelines available at **http://www.nida.nih.gov/DrugAbuse.html**
- National Institute of Environmental Health Sciences (NIEHS); environmental health information available at **http://www.niehs.nih.gov/external/facts.htm**
- National Institute of Mental Health (NIMH); guidelines available at **http://www.nimh.nih.gov/practitioners/index.cfm**
- National Institute of Neurological Disorders and Stroke (NINDS); neurological disorder information pages available at **http://www.ninds.nih.gov/health_and_medical/disorder_index.htm**
- National Institute of Nursing Research (NINR); publications on selected illnesses at **http://www.nih.gov/ninr/news-info/publications.html**
- National Institute of Biomedical Imaging and Bioengineering; general information at **http://grants.nih.gov/grants/becon/becon_info.htm**
- Center for Information Technology (CIT); referrals to other agencies based on keyword searches available at **http://kb.nih.gov/www_query_main.asp**
- National Center for Complementary and Alternative Medicine (NCCAM); health information available at **http://nccam.nih.gov/health/**
- National Center for Research Resources (NCRR); various information directories available at **http://www.ncrr.nih.gov/publications.asp**
- Office of Rare Diseases; various fact sheets available at **http://rarediseases.info.nih.gov/html/resources/rep_pubs.html**
- Centers for Disease Control and Prevention; various fact sheets on infectious diseases available at **http://www.cdc.gov/publications.htm**

NIH Databases

In addition to the various Institutes of Health that publish professional guidelines, the NIH has designed a number of databases for professionals.[13] Physician-oriented resources provide a wide variety of information related to the biomedical and health sciences, both past and present. The format of these resources varies. Searchable databases, bibliographic citations, full-text articles (when available), archival collections, and images are all available. The following are referenced by the National Library of Medicine:[14]

- **Bioethics:** Access to published literature on the ethical, legal, and public policy issues surrounding healthcare and biomedical research. This information is provided in conjunction with the Kennedy Institute of Ethics located at Georgetown University, Washington, D.C.: **http://www.nlm.nih.gov/databases/databases_bioethics.html**
- **HIV/AIDS Resources:** Describes various links and databases dedicated to HIV/AIDS research: **http://www.nlm.nih.gov/pubs/factsheets/aidsinfs.html**
- **NLM Online Exhibitions:** Describes "Exhibitions in the History of Medicine": **http://www.nlm.nih.gov/exhibition/exhibition.html**. Additional resources for historical scholarship in medicine: **http://www.nlm.nih.gov/hmd/hmd.html**
- **Biotechnology Information:** Access to public databases. The National Center for Biotechnology Information conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information for the better understanding of molecular processes affecting human health and disease: **http://www.ncbi.nlm.nih.gov/**
- **Population Information:** The National Library of Medicine provides access to worldwide coverage of population, family planning, and related health issues, including family planning technology and programs, fertility, and population law and policy: **http://www.nlm.nih.gov/databases/databases_population.html**
- **Cancer Information:** Access to cancer-oriented databases: **http://www.nlm.nih.gov/databases/databases_cancer.html**
- **Profiles in Science:** Offering the archival collections of prominent twentieth-century biomedical scientists to the public through modern digital technology: **http://www.profiles.nlm.nih.gov/**
- **Chemical Information:** Provides links to various chemical databases and references: **http://sis.nlm.nih.gov/Chem/ChemMain.html**
- **Clinical Alerts:** Reports the release of findings from the NIH-funded clinical trials where such release could significantly affect morbidity and mortality: **http://www.nlm.nih.gov/databases/alerts/clinical_alerts.html**
- **Space Life Sciences:** Provides links and information to space-based research (including NASA): **http://www.nlm.nih.gov/databases/databases_space.html**
- **MEDLINE:** Bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, the healthcare system, and the pre-clinical sciences: **http://www.nlm.nih.gov/databases/databases_medline.html**

---

[13] Remember, for the general public, the National Library of Medicine recommends the databases referenced in MEDLINE*plus* (**http://medlineplus.gov/** or **http://www.nlm.nih.gov/medlineplus/databases.html**).

[14] See **http://www.nlm.nih.gov/databases/databases.html**.

- **Toxicology and Environmental Health Information (TOXNET):** Databases covering toxicology and environmental health: **http://sis.nlm.nih.gov/Tox/ToxMain.html**
- **Visible Human Interface:** Anatomically detailed, three-dimensional representations of normal male and female human bodies: **http://www.nlm.nih.gov/research/visible/visible_human.html**

The NLM Gateway[15]

The NLM (National Library of Medicine) Gateway is a Web-based system that lets users search simultaneously in multiple retrieval systems at the U.S. National Library of Medicine (NLM). It allows users of NLM services to initiate searches from one Web interface, providing one-stop searching for many of NLM's information resources or databases.[16] To use the NLM Gateway, simply go to the search site at **http://gateway.nlm.nih.gov/gw/Cmd**. Type "stomach cancer" (or synonyms) into the search box and click "Search." The results will be presented in a tabular form, indicating the number of references in each database category.

Results Summary

Category	Items Found
Journal Articles	42974
Books / Periodicals / Audio Visual	372
Consumer Health	960
Meeting Abstracts	16
Other Collections	0
Total	44322

HSTAT[17]

HSTAT is a free, Web-based resource that provides access to full-text documents used in healthcare decision-making.[18] These documents include clinical practice guidelines, quick-reference guides for clinicians, consumer health brochures, evidence reports and technology assessments from the Agency for Healthcare Research and Quality (AHRQ), as well as AHRQ's Put Prevention Into Practice.[19] Simply search by "stomach cancer" (or synonyms) at the following Web site: **http://text.nlm.nih.gov**.

---

[15] Adapted from NLM: **http://gateway.nlm.nih.gov/gw/Cmd?Overview.x**.

[16] The NLM Gateway is currently being developed by the Lister Hill National Center for Biomedical Communications (LHNCBC) at the National Library of Medicine (NLM) of the National Institutes of Health (NIH).

[17] Adapted from HSTAT: **http://www.nlm.nih.gov/pubs/factsheets/hstat.html**.

[18] The HSTAT URL is **http://hstat.nlm.nih.gov/**.

[19] Other important documents in HSTAT include: the National Institutes of Health (NIH) Consensus Conference Reports and Technology Assessment Reports; the HIV/AIDS Treatment Information Service (ATIS) resource documents; the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Treatment (SAMHSA/CSAT) Treatment Improvement Protocols (TIP) and Center for Substance Abuse Prevention (SAMHSA/CSAP) Prevention Enhancement Protocols System (PEPS); the Public Health Service (PHS) Preventive Services Task Force's *Guide to Clinical Preventive Services*; the independent, nonfederal Task Force on Community Services' *Guide to Community Preventive Services*; and the Health Technology Advisory Committee (HTAC) of the Minnesota Health Care Commission (MHCC) health technology evaluations.

Coffee Break: Tutorials for Biologists[20]

Coffee Break is a general healthcare site that takes a scientific view of the news and covers recent breakthroughs in biology that may one day assist physicians in developing treatments. Here you will find a collection of short reports on recent biological discoveries. Each report incorporates interactive tutorials that demonstrate how bioinformatics tools are used as a part of the research process. Currently, all Coffee Breaks are written by NCBI staff.[21] Each report is about 400 words and is usually based on a discovery reported in one or more articles from recently published, peer-reviewed literature.[22] This site has new articles every few weeks, so it can be considered an online magazine of sorts. It is intended for general background information. You can access the Coffee Break Web site at the following hyperlink: **http://www.ncbi.nlm.nih.gov/Coffeebreak/**.

Other Commercial Databases

In addition to resources maintained by official agencies, other databases exist that are commercial ventures addressing medical professionals. Here are some examples that may interest you:

- **CliniWeb International:** Index and table of contents to selected clinical information on the Internet; see **http://www.ohsu.edu/cliniweb/**.
- **Medical World Search:** Searches full text from thousands of selected medical sites on the Internet; see **http://www.mwsearch.com/**.

The Genome Project and Stomach Cancer

In the following section, we will discuss databases and references which relate to the Genome Project and stomach cancer.

Online Mendelian Inheritance in Man (OMIM)

The Online Mendelian Inheritance in Man (OMIM) database is a catalog of human genes and genetic disorders authored and edited by Dr. Victor A. McKusick and his colleagues at Johns Hopkins and elsewhere. OMIM was developed for the World Wide Web by the National Center for Biotechnology Information (NCBI).[23] The database contains textual information, pictures, and reference information. It also contains copious links to NCBI's Entrez database of MEDLINE articles and sequence information.

---

[20] Adapted from **http://www.ncbi.nlm.nih.gov/Coffeebreak/Archive/FAQ.html**.

[21] The figure that accompanies each article is frequently supplied by an expert external to NCBI, in which case the source of the figure is cited. The result is an interactive tutorial that tells a biological story.

[22] After a brief introduction that sets the work described into a broader context, the report focuses on how a molecular understanding can provide explanations of observed biology and lead to therapies for diseases. Each vignette is accompanied by a figure and hypertext links that lead to a series of pages that interactively show how NCBI tools and resources are used in the research process.

[23] Adapted from **http://www.ncbi.nlm.nih.gov/**. Established in 1988 as a national resource for molecular biology information, NCBI creates public databases, conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information--all for the better understanding of molecular processes affecting human health and disease.

To search the database, go to **http://www.ncbi.nlm.nih.gov/Omim/searchomim.html**. Type "stomach cancer" (or synonyms) into the search box, and click "Submit Search." If too many results appear, you can narrow the search by adding the word "clinical." Each report will have additional links to related research and databases. In particular, the option "Database Links" will search across technical databases that offer an abundance of information. The following is an example of the results you can obtain from the OMIM for stomach cancer:

- **Gastric Cancer**
  Web site: http://www.ncbi.nlm.nih.gov/htbin-post/Omim/dispmim?137215

Genes and Disease (NCBI - Map)

The Genes and Disease database is produced by the National Center for Biotechnology Information of the National Library of Medicine at the National Institutes of Health. This Web site categorizes each disorder by system of the body. Go to **http://www.ncbi.nlm.nih.gov/disease/**, and browse the system pages to have a full view of important conditions linked to human genes. Since this site is regularly updated, you may wish to revisit it from time to time. The following systems and associated disorders are addressed:

- **Cancer:** Uncontrolled cell division.
  Examples: Breast and ovarian cancer, Burkitt lymphoma, chronic myeloid leukemia, colon cancer, lung cancer, malignant melanoma, multiple endocrine neoplasia, neurofibromatosis, p53 tumor suppressor, pancreatic cancer, prostate cancer, Ras oncogene, RB: retinoblastoma, von Hippel-Lindau syndrome.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Cancer.html**

- **Immune System:** Fights invaders.
  Examples: Asthma, autoimmune polyglandular syndrome, Crohn's disease, DiGeorge syndrome, familial Mediterranean fever, immunodeficiency with Hyper-IgM, severe combined immunodeficiency.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Immune.html**

- **Metabolism:** Food and energy.
  Examples: Adreno-leukodystrophy, atherosclerosis, Best disease, Gaucher disease, glucose galactose malabsorption, gyrate atrophy, juvenile-onset diabetes, obesity, paroxysmal nocturnal hemoglobinuria, phenylketonuria, Refsum disease, Tangier disease, Tay-Sachs disease.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Metabolism.html**

- **Muscle and Bone:** Movement and growth.
  Examples: Duchenne muscular dystrophy, Ellis-van Creveld syndrome, Marfan syndrome, myotonic dystrophy, spinal muscular atrophy.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Muscle.html**

- **Nervous System:** Mind and body.
  Examples: Alzheimer disease, amyotrophic lateral sclerosis, Angelman syndrome, Charcot-Marie-Tooth disease, epilepsy, essential tremor, fragile X syndrome, Friedreich's ataxia, Huntington disease, Niemann-Pick disease, Parkinson disease, Prader-Willi syndrome, Rett syndrome, spinocerebellar atrophy, Williams syndrome.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Brain.html**

- **Signals:** Cellular messages.
  Examples: Ataxia telangiectasia, Cockayne syndrome, glaucoma, male-patterned baldness, SRY: sex determination, tuberous sclerosis, Waardenburg syndrome, Werner syndrome.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Signals.html**
- **Transporters:** Pumps and channels.
  Examples: Cystic fibrosis, deafness, diastrophic dysplasia, Hemophilia A, long-QT syndrome, Menkes syndrome, Pendred syndrome, polycystic kidney disease, sickle cell anemia, Wilson's disease, Zellweger syndrome.
  Web site: **http://www.ncbi.nlm.nih.gov/disease/Transporters.html**

Entrez

Entrez is a search and retrieval system that integrates several linked databases at the National Center for Biotechnology Information (NCBI). These databases include nucleotide sequences, protein sequences, macromolecular structures, whole genomes, and MEDLINE through PubMed. Entrez provides access to the following databases:

- **3D Domains:** Domains from Entrez Structure,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=geo**
- **Books:** Online books,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=books**
- **Genome:** Complete genome assemblies,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Genome**
- **NCBI's Protein Sequence Information Survey Results:**
  Web site: **http://www.ncbi.nlm.nih.gov/About/proteinsurvey/**
- **Nucleotide Sequence Database (Genbank):**
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Nucleotide**
- **OMIM:** Online Mendelian Inheritance in Man,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM**
- **PopSet:** Population study data sets,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Popset**
- **ProbeSet:** Gene Expression Omnibus (GEO),
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=geo**
- **Protein Sequence Database:**
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Protein**
- **PubMed:** Biomedical literature (PubMed),
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed**
- **Structure:** Three-dimensional macromolecular structures,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Structure**
- **Taxonomy:** Organisms in GenBank,
  Web site: **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Taxonomy**

To access the Entrez system at the National Center for Biotechnology Information, go to **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=search&DB=genome**, and then

select the database that you would like to search. The databases available are listed in the drop box next to "Search." Enter "stomach cancer" (or synonyms) into the search box and click "Go."

Jablonski's Multiple Congenital Anomaly/Mental Retardation (MCA/MR) Syndromes Database[24]

This online resource has been developed to facilitate the identification and differentiation of syndromic entities. Special attention is given to the type of information that is usually limited or completely omitted in existing reference sources due to space limitations of the printed form.

At **http://www.nlm.nih.gov/mesh/jablonski/syndrome_toc/toc_a.html**, you can search across syndromes using an alphabetical index**.** Search by keywords at **http://www.nlm.nih.gov/mesh/jablonski/syndrome_db.html**.

The Genome Database[25]

Established at Johns Hopkins University in Baltimore, Maryland in 1990, the Genome Database (GDB) is the official central repository for genomic mapping data resulting from the Human Genome Initiative. In the spring of 1999, the Bioinformatics Supercomputing Centre (BiSC) at the Hospital for Sick Children in Toronto, Ontario assumed the management of GDB. The Human Genome Initiative is a worldwide research effort focusing on structural analysis of human DNA to determine the location and sequence of the estimated 100,000 human genes. In support of this project, GDB stores and curates data generated by researchers worldwide who are engaged in the mapping effort of the Human Genome Project (HGP). GDB's mission is to provide scientists with an encyclopedia of the human genome which is continually revised and updated to reflect the current state of scientific knowledge. Although GDB has historically focused on gene mapping, its focus will broaden as the Genome Project moves from mapping to sequence, and finally, to functional analysis.

To access the GDB, simply go to the following hyperlink: **http://www.gdb.org/**. Search "All Biological Data" by "Keyword." Type "stomach cancer" (or synonyms) into the search box, and review the results. If more than one word is used in the search box, then separate each one with the word "and" or "or" (using "or" might be useful when using synonyms).

---

[24] Adapted from the National Library of Medicine: **http://www.nlm.nih.gov/mesh/jablonski/about_syndrome.html**.

[25] Adapted from the Genome Database: **http://gdbwww.gdb.org/gdb/aboutGDB.html - mission**.

APPENDIX B. PATIENT RESOURCES

Overview

Official agencies, as well as federally funded institutions supported by national grants, frequently publish a variety of guidelines written with the patient in mind. These are typically called "Fact Sheets" or "Guidelines." They can take the form of a brochure, information kit, pamphlet, or flyer. Often they are only a few pages in length. Since new guidelines on stomach cancer can appear at any moment and be published by a number of sources, the best approach to finding guidelines is to systematically scan the Internet-based services that post them.

Patient Guideline Sources

The remainder of this chapter directs you to sources which either publish or can help you find additional guidelines on topics related to stomach cancer. Due to space limitations, these sources are listed in a concise manner. Do not hesitate to consult the following sources by either using the Internet hyperlink provided, or, in cases where the contact information is provided, contacting the publisher or author directly.

The National Institutes of Health

The NIH gateway to patients is located at **http://health.nih.gov/**. From this site, you can search across various sources and institutes, a number of which are summarized below.

Topic Pages: MEDLINEplus

The National Library of Medicine has created a vast and patient-oriented healthcare information portal called MEDLINEplus. Within this Internet-based system are "health topic pages" which list links to available materials relevant to stomach cancer. To access this system, log on to **http://www.nlm.nih.gov/medlineplus/healthtopics.html**. From there you can either search using the alphabetical index or browse by broad topic areas. Recently, MEDLINEplus listed the following when searched for "stomach cancer":

- Guides on stomach cancer

  Stomach Cancer
  http://www.nlm.nih.gov/medlineplus/stomachcancer.html

- Other guides

  Cancer
  http://www.nlm.nih.gov/medlineplus/cancer.html

  Cancer Alternative Therapy
  http://www.nlm.nih.gov/medlineplus/canceralternativetherapy.html

  Colorectal Cancer
  http://www.nlm.nih.gov/medlineplus/colorectalcancer.html

  Esophageal Cancer
  http://www.nlm.nih.gov/medlineplus/esophagealcancer.html

  Esophagus Disorders
  http://www.nlm.nih.gov/medlineplus/esophagusdisorders.html

  Pancreatic Cancer
  http://www.nlm.nih.gov/medlineplus/pancreaticcancer.html

  Stomach Disorders
  http://www.nlm.nih.gov/medlineplus/stomachdisorders.html

Within the health topic page dedicated to stomach cancer, the following was listed:

- General/Overviews

  Stomach Cancer
  Source: Mayo Foundation for Medical Education and Research
  http://www.mayoclinic.com/invoke.cfm?id=DS00301

- Diagnosis/Symptoms

  How Is Stomach Cancer Diagnosed?
  Source: American Cancer Society
  http://www.cancer.org/docroot/cri/content/cri_2_4_3x_how_is_stomach_cancer_diagnosed_40.asp?sitearea=cri

  How Is Stomach Cancer Staged?
  Source: American Cancer Society
  http://www.cancer.org/docroot/cri/content/cri_2_4_3x_how_is_stomach_cancer_staged_40.asp?sitearea=cri

  Upper Endoscopy
  Source: National Digestive Diseases Information Clearinghouse
  http://digestive.niddk.nih.gov/ddiseases/pubs/upperendoscopy/index.htm

  Upper GI Series
  Source: National Digestive Diseases Information Clearinghouse
  http://digestive.niddk.nih.gov/ddiseases/pubs/uppergi/index.htm

- Treatment

  FDA Approves Gleevec to Treat Gastrointestinal Stromal Cancer
  Source: Food and Drug Administration
  http://www.fda.gov/bbs/topics/ANSWERS/2002/ANS01134.html

  Gastric Cancer (PDQ): Treatment
  Source: National Cancer Institute
  http://www.cancer.gov/cancerinfo/pdq/treatment/gastric/patient/

- Specific Conditions/Aspects

  Stomach Polyps
  Source: Mayo Foundation for Medical Education and Research
  http://www.mayoclinic.com/invoke.cfm?id=AN00133

  What Should You Ask Your Doctor about Stomach Cancer?
  Source: American Cancer Society
  http://www.cancer.org/docroot/cri/content/cri_2_4_5x_what_should_you_ask_your_physician_about_stomach_cancer_40.asp?sitearea=cri

- From the National Institutes of Health

  What You Need to Know about Stomach Cancer
  Source: National Cancer Institute
  http://www.cancer.gov/cancerinfo/wyntk/stomach

- Latest News

  Aspirin May Help Prevent Stomach Cancer
  Source: 12/03/2003, Reuters Health
  http://www.nlm.nih.gov//www.nlm.nih.gov/medlineplus/news/fullstory_14946.html

  Stomach and Uterine Cancer Risk Higher in Diabetes
  Source: 12/04/2003, Reuters Health
  http://www.nlm.nih.gov//www.nlm.nih.gov/medlineplus/news/fullstory_14978.html

- Organizations

  American Cancer Society
  http://www.cancer.org/

  National Cancer Institute
  http://www.cancer.gov/

- Prevention/Screening

  Gastric Cancer (PDQ): Prevention
  Source: National Cancer Institute
  http://www.cancer.gov/cancerinfo/pdq/prevention/gastric/patient/

Gastric Cancer (PDQ): Screening
Source: National Cancer Institute
http://www.cancer.gov/cancerinfo/pdq/screening/gastric/patient/

Stomach Cancer Questionnaire
Source: Harvard Center for Cancer Prevention
http://www.yourcancerrisk.harvard.edu/hccpquiz.pl?func=d_start&cancer_list=Stomach

What Are the Risk Factors for Stomach Cancer?
Source: American Cancer Society
http://www.cancer.org/docroot/cri/content/cri_2_4_2x_what_are_the_risk_factors_for_stomach_cancer_40.asp?sitearea=cri

- Research

Do We Know What Causes Stomach Cancer?
Source: American Cancer Society
http://www.cancer.org/docroot/cri/content/cri_2_4_2x_do_we_know_what_causes_stomach_cancer_40.asp?sitearea=ped

Stomach Cancer Risk Increased in Smokers with a Bacteria
Source: American Cancer Society
http://www.cancer.org/docroot/nws/content/nws_1_1x_stomach_cancer_risk_increased_in_smokers_with_a_bacteria.asp

What's New in Stomach Cancer Research and Treatment?
Source: American Cancer Society
http://www.cancer.org/docroot/cri/content/cri_2_4_6x_whats_new_in_stomach_cancer_research_and_treatment_40.asp?sitearea=cri

- Statistics

What Are the Key Statistics for Stomach Cancer?
Source: American Cancer Society
http://www.cancer.org/docroot/CRI/content/CRI_2_4_1X_What_are_the_key_statistics_for_stomach_cancer_40.asp?sitearea=

You may also choose to use the search utility provided by MEDLINEplus at the following Web address: **http://www.nlm.nih.gov/medlineplus/**. Simply type a keyword into the search box and click "Search." This utility is similar to the NIH search utility, with the exception that it only includes materials that are linked within the MEDLINEplus system (mostly patient-oriented information). It also has the disadvantage of generating unstructured results. We recommend, therefore, that you use this method only if you have a very targeted search.

The Combined Health Information Database (CHID)

CHID Online is a reference tool that maintains a database directory of thousands of journal articles and patient education guidelines on stomach cancer. CHID offers summaries that describe the guidelines available, including contact information and pricing. CHID's general Web site is **http://chid.nih.gov/**. To search this database, go to **http://chid.nih.gov/detail/detail.html**. In particular, you can use the advanced search

options to look up pamphlets, reports, brochures, and information kits. The following was recently posted in this archive:

- **Gastritis**

  Source: Camp Hill, PA: Chek-Med Systems, Inc. 199x. [2 p.].

  Contact: Available from Chek-Med Systems, Inc. 200 Grandview Avenue, Camp Hill, PA 17011-1706. (800) 451-5797 or (717) 761-1170. Fax (717) 761-0216. PRICE: $22.00 per pack of 50 brochures; 3 pack minimum.

  Summary: This patient education brochure describes gastritis, a condition defined as inflammation of the stomach. In gastritis, white blood cells move into the wall of the stomach as a response to some type of injury. The brochure discusses the causes (etiology) of gastroparesis, including helicobacter pylori (a bacteria that can live in the mucous lining of the stomach), autoimmune gastritis (which results in pernicious anemia because the body can no longer absorb vitamin B12), side effects of aspirin and nonsteroidal antiinflammatory drugs (NSAIDs), alcohol and other chemicals, and hypertrophic gastritis. The symptoms of gastritis depend on how acute the illness is and how long it has been present. In the acute phase, there may be pain or gnawing in the upper abdomen, nausea, and vomiting. In the chronic phase, the pain may be dull and there may be loss of appetite with a feeling of fullness after several bites of food. The brochure cautions that often there are no symptoms at all. Diagnosis is made from the patient's medical history, in conjunction with endoscopy and biopsy of the stomach lining. An upper gastrointestinal (GI) x-ray exam and certain blood tests may also be helpful. Treatment depends on the cause; for most types of gastritis, reduction of stomach acid by medication is often helpful. Serious complications of gastritis are unusual. One exception is the H. pylori infection which, when present for a long time, may lead to **stomach cancer** in some individuals. 2 figures.

- **Coping with Ulcers**

  Source: Physician Assistant. p. 29. December 1999.

  Contact: Available from Springhouse Corporation. Physician Assistant, P.O. Box 908, Springhouse, PA 19477. (215) 646-8700. Fax (215) 646-4399.

  Summary: This patient handout reviews peptic ulcer disease (PUD), commonly referred to as ulcers, and defined as sores or craters in the lining of the stomach (gastric ulcers) or in the first part of the small intestine called the duodenum (duodenal ulcers). The handout offers information about the causes of ulcers, risk factors that make it more likely to get ulcers, treatment options, and the possible complications of ulcers. Gastric ulcers are caused when the lining of the stomach is injured. Risk factors for gastric ulcers include regular use of aspirin or nonsteroidal antiinflammatory drugs (NSAIDs), excess amounts of bile in the stomach, Helicobacter pylori infection, type O blood, and uncommon tumors called gastrinomas (usually found in the pancreas). Duodenal ulcers develop when an overproduction of enzymes, such as stomach acid, bile or other enzymes, overwhelms the layer of mucus protecting the surface of the duodenum. Risk factors for duodenal ulcers include regular use of aspirin or NSAIDs, smoking, chronic kidney failure, liver damage from alcohol, infection with Helicobacter pylori bacteria, and type O blood. Lifestyle modifications, including smoking cessation, avoidance of NSAIDs, and weight loss, are usually the first line of defense against ulcers. Complications of untreated ulcers can include significant blood loss, intestinal blockage, perforation of the stomach lining or small intestine with spillage of acid, bile, and other substances into the abdominal cavity, and **stomach cancer.** The handout concludes with

the contact information for two resource organizations: American Gastroenterology Association and the International Foundation for Functional Gastrointestinal Disorders.

Healthfinder™

Healthfinder™ is sponsored by the U.S. Department of Health and Human Services and offers links to hundreds of other sites that contain healthcare information. This Web site is located at **http://www.healthfinder.gov**. Again, keyword searches can be used to find guidelines. The following was recently found in this database:

- **Gastric Cancer (PDQ®): Treatment**

  Summary: Based on information in the PDQ summary for health professionals on gastric (stomach) cancer, this patient resource presents facts about current treatment of stomach cancer by cancer stage.

  Source: National Cancer Institute, National Institutes of Health

  http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=6194

- **Stomach (Gastric) Cancer Home Page**

  Summary: This web site links patients, health care professionals, and the general public to a range of topics related to stomach cancer, including diagnosis, screening, treatment, disease management, coping

  Source: National Cancer Institute, National Institutes of Health

  http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=6195

- **What You Need To Know About™ Stomach Cancer**

  Summary: Patient information about stomach cancer, including detection/screening, staging, treatment options, treatment side effects and research.

  Source: National Cancer Institute, National Institutes of Health

  http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=6193

The NIH Search Utility

The NIH search utility allows you to search for documents on over 100 selected Web sites that comprise the NIH-WEB-SPACE. Each of these servers is "crawled" and indexed on an ongoing basis. Your search will produce a list of various documents, all of which will relate in some way to stomach cancer. The drawbacks of this approach are that the information is not organized by theme and that the references are often a mix of information for professionals and patients. Nevertheless, a large number of the listed Web sites provide useful background information. We can only recommend this route, therefore, for relatively rare or specific disorders, or when using highly targeted searches. To use the NIH search utility, visit the following Web page: **http://search.nih.gov/index.html**.

Additional Web Sources

A number of Web sites are available to the public that often link to government sites. These can also point you in the direction of essential information. The following is a representative sample:

- AOL: **http://search.aol.com/cat.adp?id=168&layer=&from=subcats**
- Family Village: **http://www.familyvillage.wisc.edu/specific.htm**
- Google: **http://directory.google.com/Top/Health/Conditions_and_Diseases/**
- Med Help International: **http://www.medhelp.org/HealthTopics/A.html**
- Open Directory Project: **http://dmoz.org/Health/Conditions_and_Diseases/**
- Yahoo.com: **http://dir.yahoo.com/Health/Diseases_and_Conditions/**
- WebMD®Health: **http://my.webmd.com/health_topics**

Finding Associations

There are several Internet directories that provide lists of medical associations with information on or resources relating to stomach cancer. By consulting all of associations listed in this chapter, you will have nearly exhausted all sources for patient associations concerned with stomach cancer.

The National Health Information Center (NHIC)

The National Health Information Center (NHIC) offers a free referral service to help people find organizations that provide information about stomach cancer. For more information, see the NHIC's Web site at **http://www.health.gov/NHIC/** or contact an information specialist by calling 1-800-336-4797.

Directory of Health Organizations

The Directory of Health Organizations, provided by the National Library of Medicine Specialized Information Services, is a comprehensive source of information on associations. The Directory of Health Organizations database can be accessed via the Internet at **http://www.sis.nlm.nih.gov/Dir/DirMain.html**. It is composed of two parts: DIRLINE and Health Hotlines.

The DIRLINE database comprises some 10,000 records of organizations, research centers, and government institutes and associations that primarily focus on health and biomedicine. To access DIRLINE directly, go to the following Web site: **http://dirline.nlm.nih.gov/**. Simply type in "stomach cancer" (or a synonym), and you will receive information on all relevant organizations listed in the database.

Health Hotlines directs you to toll-free numbers to over 300 organizations. You can access this database directly at **http://www.sis.nlm.nih.gov/hotlines/**. On this page, you are given the option to search by keyword or by browsing the subject list. When you have received

your search results, click on the name of the organization for its description and contact information.

The Combined Health Information Database

Another comprehensive source of information on healthcare associations is the Combined Health Information Database. Using the "Detailed Search" option, you will need to limit your search to "Organizations" and "stomach cancer". Type the following hyperlink into your Web browser: **http://chid.nih.gov/detail/detail.html**. To find associations, use the drop boxes at the bottom of the search page where "You may refine your search by." For publication date, select "All Years." Then, select your preferred language and the format option "Organization Resource Sheet." Type "stomach cancer" (or synonyms) into the "For these words:" box. You should check back periodically with this database since it is updated every three months.

The National Organization for Rare Disorders, Inc.

The National Organization for Rare Disorders, Inc. has prepared a Web site that provides, at no charge, lists of associations organized by health topic. You can access this database at the following Web site: **http://www.rarediseases.org/search/orgsearch.html**. Type "stomach cancer" (or a synonym) into the search box, and click "Submit Query."

APPENDIX C. FINDING MEDICAL LIBRARIES

Overview

In this Appendix, we show you how to quickly find a medical library in your area.

Preparation

Your local public library and medical libraries have interlibrary loan programs with the National Library of Medicine (NLM), one of the largest medical collections in the world. According to the NLM, most of the literature in the general and historical collections of the National Library of Medicine is available on interlibrary loan to any library. If you would like to access NLM medical literature, then visit a library in your area that can request the publications for you.[26]

Finding a Local Medical Library

The quickest method to locate medical libraries is to use the Internet-based directory published by the National Network of Libraries of Medicine (NN/LM). This network includes 4626 members and affiliates that provide many services to librarians, health professionals, and the public. To find a library in your area, simply visit **http://nnlm.gov/members/adv.html** or call 1-800-338-7657.

Medical Libraries in the U.S. and Canada

In addition to the NN/LM, the National Library of Medicine (NLM) lists a number of libraries with reference facilities that are open to the public. The following is the NLM's list and includes hyperlinks to each library's Web site. These Web pages can provide information on hours of operation and other restrictions. The list below is a small sample of

[26] Adapted from the NLM: **http://www.nlm.nih.gov/psd/cas/interlibrary.html**.

libraries recommended by the National Library of Medicine (sorted alphabetically by name of the U.S. state or Canadian province where the library is located)[27]:

- **Alabama:** Health InfoNet of Jefferson County (Jefferson County Library Cooperative, Lister Hill Library of the Health Sciences), **http://www.uab.edu/infonet/**
- **Alabama:** Richard M. Scrushy Library (American Sports Medicine Institute)
- **Arizona:** Samaritan Regional Medical Center: The Learning Center (Samaritan Health System, Phoenix, Arizona), **http://www.samaritan.edu/library/bannerlibs.htm**
- **California:** Kris Kelly Health Information Center (St. Joseph Health System, Humboldt), **http://www.humboldt1.com/~kkhic/index.html**
- **California:** Community Health Library of Los Gatos, **http://www.healthlib.org/orgresources.html**
- **California:** Consumer Health Program and Services (CHIPS) (County of Los Angeles Public Library, Los Angeles County Harbor-UCLA Medical Center Library) - Carson, CA, **http://www.colapublib.org/services/chips.html**
- **California:** Gateway Health Library (Sutter Gould Medical Foundation)
- **California:** Health Library (Stanford University Medical Center), **http://www-med.stanford.edu/healthlibrary/**
- **California:** Patient Education Resource Center - Health Information and Resources (University of California, San Francisco), **http://sfghdean.ucsf.edu/barnett/PERC/default.asp**
- **California:** Redwood Health Library (Petaluma Health Care District), **http://www.phcd.org/rdwdlib.html**
- **California:** Los Gatos PlaneTree Health Library, **http://planetreesanjose.org/**
- **California:** Sutter Resource Library (Sutter Hospitals Foundation, Sacramento), **http://suttermedicalcenter.org/library/**
- **California:** Health Sciences Libraries (University of California, Davis), **http://www.lib.ucdavis.edu/healthsci/**
- **California:** ValleyCare Health Library & Ryan Comer Cancer Resource Center (ValleyCare Health System, Pleasanton), **http://gaelnet.stmarys-ca.edu/other.libs/gbal/east/vchl.html**
- **California:** Washington Community Health Resource Library (Fremont), **http://www.healthlibrary.org/**
- **Colorado:** William V. Gervasini Memorial Library (Exempla Healthcare), **http://www.saintjosephdenver.org/yourhealth/libraries/**
- **Connecticut:** Hartford Hospital Health Science Libraries (Hartford Hospital), **http://www.harthosp.org/library/**
- **Connecticut:** Healthnet: Connecticut Consumer Health Information Center (University of Connecticut Health Center, Lyman Maynard Stowe Library), **http://library.uchc.edu/departm/hnet/**

---

[27] Abstracted from **http://www.nlm.nih.gov/medlineplus/libraries.html**.

- **Connecticut:** Waterbury Hospital Health Center Library (Waterbury Hospital, Waterbury), **http://www.waterburyhospital.com/library/consumer.shtml**
- **Delaware:** Consumer Health Library (Christiana Care Health System, Eugene du Pont Preventive Medicine & Rehabilitation Institute, Wilmington), **http://www.christianacare.org/health_guide/health_guide_pmri_health_info.cfm**
- **Delaware:** Lewis B. Flinn Library (Delaware Academy of Medicine, Wilmington), **http://www.delamed.org/chls.html**
- **Georgia:** Family Resource Library (Medical College of Georgia, Augusta), **http://cmc.mcg.edu/kids_families/fam_resources/fam_res_lib/frl.htm**
- **Georgia:** Health Resource Center (Medical Center of Central Georgia, Macon), **http://www.mccg.org/hrc/hrchome.asp**
- **Hawaii:** Hawaii Medical Library: Consumer Health Information Service (Hawaii Medical Library, Honolulu), **http://hml.org/CHIS/**
- **Idaho:** DeArmond Consumer Health Library (Kootenai Medical Center, Coeur d'Alene), **http://www.nicon.org/DeArmond/index.htm**
- **Illinois:** Health Learning Center of Northwestern Memorial Hospital (Chicago), **http://www.nmh.org/health_info/hlc.html**
- **Illinois:** Medical Library (OSF Saint Francis Medical Center, Peoria), **http://www.osfsaintfrancis.org/general/library/**
- **Kentucky:** Medical Library - Services for Patients, Families, Students & the Public (Central Baptist Hospital, Lexington), **http://www.centralbap.com/education/community/library.cfm**
- **Kentucky:** University of Kentucky - Health Information Library (Chandler Medical Center, Lexington), **http://www.mc.uky.edu/PatientEd/**
- **Louisiana:** Alton Ochsner Medical Foundation Library (Alton Ochsner Medical Foundation, New Orleans), **http://www.ochsner.org/library/**
- **Louisiana:** Louisiana State University Health Sciences Center Medical Library-Shreveport, **http://lib-sh.lsuhsc.edu/**
- **Maine:** Franklin Memorial Hospital Medical Library (Franklin Memorial Hospital, Farmington), **http://www.fchn.org/fmh/lib.htm**
- **Maine:** Gerrish-True Health Sciences Library (Central Maine Medical Center, Lewiston), **http://www.cmmc.org/library/library.html**
- **Maine:** Hadley Parrot Health Science Library (Eastern Maine Healthcare, Bangor), **http://www.emh.org/hll/hpl/guide.htm**
- **Maine:** Maine Medical Center Library (Maine Medical Center, Portland), **http://www.mmc.org/library/**
- **Maine:** Parkview Hospital (Brunswick), **http://www.parkviewhospital.org/**
- **Maine:** Southern Maine Medical Center Health Sciences Library (Southern Maine Medical Center, Biddeford), **http://www.smmc.org/services/service.php3?choice=10**
- **Maine:** Stephens Memorial Hospital's Health Information Library (Western Maine Health, Norway), **http://www.wmhcc.org/Library/**

- **Manitoba, Canada:** Consumer & Patient Health Information Service (University of Manitoba Libraries), **http://www.umanitoba.ca/libraries/units/health/reference/chis.html**
- **Manitoba, Canada:** J.W. Crane Memorial Library (Deer Lodge Centre, Winnipeg), **http://www.deerlodge.mb.ca/crane_library/about.asp**
- **Maryland:** Health Information Center at the Wheaton Regional Library (Montgomery County, Dept. of Public Libraries, Wheaton Regional Library), **http://www.mont.lib.md.us/healthinfo/hic.asp**
- **Massachusetts:** Baystate Medical Center Library (Baystate Health System), **http://www.baystatehealth.com/1024/**
- **Massachusetts:** Boston University Medical Center Alumni Medical Library (Boston University Medical Center), **http://med-libwww.bu.edu/library/lib.html**
- **Massachusetts:** Lowell General Hospital Health Sciences Library (Lowell General Hospital, Lowell), **http://www.lowellgeneral.org/library/HomePageLinks/WWW.htm**
- **Massachusetts:** Paul E. Woodard Health Sciences Library (New England Baptist Hospital, Boston), **http://www.nebh.org/health_lib.asp**
- **Massachusetts:** St. Luke's Hospital Health Sciences Library (St. Luke's Hospital, Southcoast Health System, New Bedford), **http://www.southcoast.org/library/**
- **Massachusetts:** Treadwell Library Consumer Health Reference Center (Massachusetts General Hospital), **http://www.mgh.harvard.edu/library/chrcindex.html**
- **Massachusetts:** UMass HealthNet (University of Massachusetts Medical School, Worchester), **http://healthnet.umassmed.edu/**
- **Michigan:** Botsford General Hospital Library - Consumer Health (Botsford General Hospital, Library & Internet Services), **http://www.botsfordlibrary.org/consumer.htm**
- **Michigan:** Helen DeRoy Medical Library (Providence Hospital and Medical Centers), **http://www.providence-hospital.org/library/**
- **Michigan:** Marquette General Hospital - Consumer Health Library (Marquette General Hospital, Health Information Center), **http://www.mgh.org/center.html**
- **Michigan:** Patient Education Resouce Center - University of Michigan Cancer Center (University of Michigan Comprehensive Cancer Center, Ann Arbor), **http://www.cancer.med.umich.edu/learn/leares.htm**
- **Michigan:** Sladen Library & Center for Health Information Resources - Consumer Health Information (Detroit), **http://www.henryford.com/body.cfm?id=39330**
- **Montana:** Center for Health Information (St. Patrick Hospital and Health Sciences Center, Missoula)
- **National:** Consumer Health Library Directory (Medical Library Association, Consumer and Patient Health Information Section), **http://caphis.mlanet.org/directory/index.html**
- **National:** National Network of Libraries of Medicine (National Library of Medicine) - provides library services for health professionals in the United States who do not have access to a medical library, **http://nnlm.gov/**
- **National:** NN/LM List of Libraries Serving the Public (National Network of Libraries of Medicine), **http://nnlm.gov/members/**

- **Nevada:** Health Science Library, West Charleston Library (Las Vegas-Clark County Library District, Las Vegas), **http://www.lvccld.org/special_collections/medical/index.htm**
- **New Hampshire:** Dartmouth Biomedical Libraries (Dartmouth College Library, Hanover), **http://www.dartmouth.edu/~biomed/resources.htmld/conshealth.htmld/**
- **New Jersey:** Consumer Health Library (Rahway Hospital, Rahway), **http://www.rahwayhospital.com/library.htm**
- **New Jersey:** Dr. Walter Phillips Health Sciences Library (Englewood Hospital and Medical Center, Englewood), **http://www.englewoodhospital.com/links/index.htm**
- **New Jersey:** Meland Foundation (Englewood Hospital and Medical Center, Englewood), **http://www.geocities.com/ResearchTriangle/9360/**
- **New York:** Choices in Health Information (New York Public Library) - NLM Consumer Pilot Project participant, **http://www.nypl.org/branch/health/links.html**
- **New York:** Health Information Center (Upstate Medical University, State University of New York, Syracuse), **http://www.upstate.edu/library/hic/**
- **New York:** Health Sciences Library (Long Island Jewish Medical Center, New Hyde Park), **http://www.lij.edu/library/library.html**
- **New York:** ViaHealth Medical Library (Rochester General Hospital), **http://www.nyam.org/library/**
- **Ohio:** Consumer Health Library (Akron General Medical Center, Medical & Consumer Health Library), **http://www.akrongeneral.org/hwlibrary.htm**
- **Oklahoma:** The Health Information Center at Saint Francis Hospital (Saint Francis Health System, Tulsa), **http://www.sfh-tulsa.com/services/healthinfo.asp**
- **Oregon:** Planetree Health Resource Center (Mid-Columbia Medical Center, The Dalles), **http://www.mcmc.net/phrc/**
- **Pennsylvania:** Community Health Information Library (Milton S. Hershey Medical Center, Hershey), **http://www.hmc.psu.edu/commhealth/**
- **Pennsylvania:** Community Health Resource Library (Geisinger Medical Center, Danville), **http://www.geisinger.edu/education/commlib.shtml**
- **Pennsylvania:** HealthInfo Library (Moses Taylor Hospital, Scranton), **http://www.mth.org/healthwellness.html**
- **Pennsylvania:** Hopwood Library (University of Pittsburgh, Health Sciences Library System, Pittsburgh), **http://www.hsls.pitt.edu/guides/chi/hopwood/index_html**
- **Pennsylvania:** Koop Community Health Information Center (College of Physicians of Philadelphia), **http://www.collphyphil.org/kooppg1.shtml**
- **Pennsylvania:** Learning Resources Center - Medical Library (Susquehanna Health System, Williamsport), **http://www.shscares.org/services/lrc/index.asp**
- **Pennsylvania:** Medical Library (UPMC Health System, Pittsburgh), **http://www.upmc.edu/passavant/library.htm**
- **Quebec, Canada:** Medical Library (Montreal General Hospital), **http://www.mghlib.mcgill.ca/**

- **South Dakota:** Rapid City Regional Hospital Medical Library (Rapid City Regional Hospital), **http://www.rcrh.org/Services/Library/Default.asp**
- **Texas:** Houston HealthWays (Houston Academy of Medicine-Texas Medical Center Library), **http://hhw.library.tmc.edu/**
- **Washington:** Community Health Library (Kittitas Valley Community Hospital), **http://www.kvch.com/**
- **Washington:** Southwest Washington Medical Center Library (Southwest Washington Medical Center, Vancouver), **http://www.swmedicalcenter.com/body.cfm?id=72**

ONLINE GLOSSARIES

The Internet provides access to a number of free-to-use medical dictionaries. The National Library of Medicine has compiled the following list of online dictionaries:

- ADAM Medical Encyclopedia (A.D.A.M., Inc.), comprehensive medical reference: **http://www.nlm.nih.gov/medlineplus/encyclopedia.html**
- MedicineNet.com Medical Dictionary (MedicineNet, Inc.): **http://www.medterms.com/Script/Main/hp.asp**
- Merriam-Webster Medical Dictionary (Inteli-Health, Inc.): **http://www.intelihealth.com/IH/**
- Multilingual Glossary of Technical and Popular Medical Terms in Eight European Languages (European Commission) - Danish, Dutch, English, French, German, Italian, Portuguese, and Spanish: **http://allserv.rug.ac.be/~rvdstich/eugloss/welcome.html**
- On-line Medical Dictionary (CancerWEB): **http://cancerweb.ncl.ac.uk/omd/**
- Rare Diseases Terms (Office of Rare Diseases): **http://ord.aspensys.com/asp/diseases/diseases.asp**
- Technology Glossary (National Library of Medicine) - Health Care Technology: **http://www.nlm.nih.gov/nichsr/ta101/ta10108.htm**

Beyond these, MEDLINEplus contains a very patient-friendly encyclopedia covering every aspect of medicine (licensed from A.D.A.M., Inc.). The ADAM Medical Encyclopedia can be accessed at **http://www.nlm.nih.gov/medlineplus/encyclopedia.html**. ADAM is also available on commercial Web sites such as drkoop.com (**http://www.drkoop.com/**) and Web MD (**http://my.webmd.com/adam/asset/adam_disease_articles/a_to_z/a**). The NIH suggests the following Web sites in the ADAM Medical Encyclopedia when searching for information on stomach cancer:

- **Basic Guidelines for Stomach Cancer**

  Gastric cancer
  Web site: http://www.nlm.nih.gov/medlineplus/ency/article/000223.htm

- **Signs & Symptoms for Stomach Cancer**

  Abdominal fullness prematurely after meals
  Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003127.htm

  Abdominal pain
  Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003120.htm

  Anemia
  Web site: http://www.nlm.nih.gov/medlineplus/ency/article/000560.htm

  Belching
  Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003080.htm

Breath odor
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003058.htm

Difficulty swallowing
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003115.htm

Heartburn
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003114.htm

Nausea and vomiting
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003117.htm

Stress
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003211.htm

Vomiting blood
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003118.htm

Weight loss
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003107.htm

- **Diagnostics and Tests for Stomach Cancer**

Biopsy
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003416.htm

CBC
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003642.htm

EGD (esophagogastroduodenoscopy)
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003888.htm

Gastric acid
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003883.htm

Upper GI series
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/003816.htm

- **Nutrition for Stomach Cancer**

Vitamin C
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002404.htm

- **Background Topics for Stomach Cancer**

Cancer - support group
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002166.htm

Chemotherapy
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002324.htm

Chronic
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002312.htm

Gastrectomy
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002945.htm

Gastrointestinal disorders - support group
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002178.htm

Incidence
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002387.htm

Malignancy
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002253.htm

Radiation therapy
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/001918.htm

Support group
Web site: http://www.nlm.nih.gov/medlineplus/ency/article/002150.htm

Online Dictionary Directories

The following are additional online directories compiled by the National Library of Medicine, including a number of specialized medical dictionaries:

- Medical Dictionaries: Medical & Biological (World Health Organization): **http://www.who.int/hlt/virtuallibrary/English/diction.htm#Medical**
- MEL-Michigan Electronic Library List of Online Health and Medical Dictionaries (Michigan Electronic Library): **http://mel.lib.mi.us/health/health-dictionaries.html**
- Patient Education: Glossaries (DMOZ Open Directory Project): **http://dmoz.org/Health/Education/Patient_Education/Glossaries/**
- Web of Online Dictionaries (Bucknell University): **http://www.yourdictionary.com/diction5.html#medicine**

STOMACH CANCER DICTIONARY

The definitions below are derived from official public sources, including the National Institutes of Health [NIH] and the European Union [EU].

Abdomen: That portion of the body that lies between the thorax and the pelvis. [NIH]

Abdominal: Having to do with the abdomen, which is the part of the body between the chest and the hips that contains the pancreas, stomach, intestines, liver, gallbladder, and other organs. [NIH]

Abdominal Cramps: Abdominal pain due to spasmodic contractions of the bowel. [NIH]

Abdominal Pain: Sensation of discomfort, distress, or agony in the abdominal region. [NIH]

Aberrant: Wandering or deviating from the usual or normal course. [EU]

Ablation: The removal of an organ by surgery. [NIH]

Acatalasia: A rare autosomal recessive disorder resulting from the absence of catalase activity. Though usually asymptomatic, a syndrome of oral ulcerations and gangrene may be present. [NIH]

Acetylcholine: A neurotransmitter. Acetylcholine in vertebrates is the major transmitter at neuromuscular junctions, autonomic ganglia, parasympathetic effector junctions, a subset of sympathetic effector junctions, and at many sites in the central nervous system. It is generally not used as an administered drug because it is broken down very rapidly by cholinesterases, but it is useful in some ophthalmological applications. [NIH]

Acrylonitrile: A highly poisonous compound used widely in the manufacture of plastics, adhesives and synthetic rubber. [NIH]

Acute renal: A condition in which the kidneys suddenly stop working. In most cases, kidneys can recover from almost complete loss of function. [NIH]

Adaptability: Ability to develop some form of tolerance to conditions extremely different from those under which a living organism evolved. [NIH]

Adduct: Complex formed when a carcinogen combines with DNA or a protein. [NIH]

Adenocarcinoma: A malignant epithelial tumor with a glandular organization. [NIH]

Adenovirus: A group of viruses that cause respiratory tract and eye infections. Adenoviruses used in gene therapy are altered to carry a specific tumor-fighting gene. [NIH]

Adhesions: Pathological processes consisting of the union of the opposing surfaces of a wound. [NIH]

Adjuvant: A substance which aids another, such as an auxiliary remedy; in immunology, nonspecific stimulator (e.g., BCG vaccine) of the immune response. [EU]

Adjuvant Therapy: Treatment given after the primary treatment to increase the chances of a cure. Adjuvant therapy may include chemotherapy, radiation therapy, or hormone therapy. [NIH]

Adverse Effect: An unwanted side effect of treatment. [NIH]

Aerobic: In biochemistry, reactions that need oxygen to happen or happen when oxygen is present. [NIH]

Affinity: 1. Inherent likeness or relationship. 2. A special attraction for a specific element, organ, or structure. 3. Chemical affinity; the force that binds atoms in molecules; the

tendency of substances to combine by chemical reaction. 4. The strength of noncovalent chemical binding between two substances as measured by the dissociation constant of the complex. 5. In immunology, a thermodynamic expression of the strength of interaction between a single antigen-binding site and a single antigenic determinant (and thus of the stereochemical compatibility between them), most accurately applied to interactions among simple, uniform antigenic determinants such as haptens. Expressed as the association constant (K litres mole -1), which, owing to the heterogeneity of affinities in a population of antibody molecules of a given specificity, actually represents an average value (mean intrinsic association constant). 6. The reciprocal of the dissociation constant. [EU]

Agar: A complex sulfated polymer of galactose units, extracted from Gelidium cartilagineum, Gracilaria confervoides, and related red algae. It is used as a gel in the preparation of solid culture media for microorganisms, as a bulk laxative, in making emulsions, and as a supporting medium for immunodiffusion and immunoelectrophoresis. [NIH]

Agarose: A polysaccharide complex, free of nitrogen and prepared from agar-agar which is produced by certain seaweeds (red algae). It dissolves in warm water to form a viscid solution. [NIH]

Aggressiveness: The quality of being aggressive (= characterized by aggression; militant; enterprising; spreading with vigour; chemically active; variable and adaptable). [EU]

Albumin: 1. Any protein that is soluble in water and moderately concentrated salt solutions and is coagulable by heat. 2. Serum albumin; the major plasma protein (approximately 60 per cent of the total), which is responsible for much of the plasma colloidal osmotic pressure and serves as a transport protein carrying large organic anions, such as fatty acids, bilirubin, and many drugs, and also carrying certain hormones, such as cortisol and thyroxine, when their specific binding globulins are saturated. Albumin is synthesized in the liver. Low serum levels occur in protein malnutrition, active inflammation and serious hepatic and renal disease. [EU]

Alcohol Drinking: Behaviors associated with the ingesting of alcoholic beverages, including social drinking. [NIH]

Algorithms: A procedure consisting of a sequence of algebraic formulas and/or logical steps to calculate or determine a given task. [NIH]

Alimentary: Pertaining to food or nutritive material, or to the organs of digestion. [EU]

Alkaline: Having the reactions of an alkali. [EU]

Alkylating Agents: Highly reactive chemicals that introduce alkyl radicals into biologically active molecules and thereby prevent their proper functioning. Many are used as antineoplastic agents, but most are very toxic, with carcinogenic, mutagenic, teratogenic, and immunosuppressant actions. They have also been used as components in poison gases. [NIH]

Alleles: Mutually exclusive forms of the same gene, occupying the same locus on homologous chromosomes, and governing the same biochemical and developmental process. [NIH]

Allium: A genus of liliaceous herbs containing onions (Allium cepa), garlic (Allium sativum), and others; many produce pungent, often bacteriostatic and physiologically active compounds and are used as food, condiment, and medicament, the latter in traditional medicine. [NIH]

Alpha Particles: Positively charged particles composed of two protons and two neutrons, i.e., helium nuclei, emitted during disintegration of very heavy isotopes; a beam of alpha particles or an alpha ray has very strong ionizing power, but weak penetrability. [NIH]

Alpha-fetoprotein: AFP. A protein normally produced by a developing fetus. AFP levels are usually undetectable in the blood of healthy nonpregnant adults. An elevated level of AFP suggests the presence of either a primary liver cancer or germ cell tumor. [NIH]

Alternative medicine: Practices not generally recognized by the medical community as standard or conventional medical approaches and used instead of standard treatments. Alternative medicine includes the taking of dietary supplements, megadose vitamins, and herbal preparations; the drinking of special teas; and practices such as massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Amebiasis: Infection with any of various amebae. It is an asymptomatic carrier state in most individuals, but diseases ranging from chronic, mild diarrhea to fulminant dysentery may occur. [NIH]

Amenorrhea: Absence of menstruation. [NIH]

Amino Acid Sequence: The order of amino acids as they occur in a polypeptide chain. This is referred to as the primary structure of proteins. It is of fundamental importance in determining protein conformation. [NIH]

Amino Acids: Organic compounds that generally contain an amino (-NH2) and a carboxyl (-COOH) group. Twenty alpha-amino acids are the subunits which are polymerized to form proteins. [NIH]

Amino Acids: Organic compounds that generally contain an amino (-NH2) and a carboxyl (-COOH) group. Twenty alpha-amino acids are the subunits which are polymerized to form proteins. [NIH]

Ammonia: A colorless alkaline gas. It is formed in the body during decomposition of organic materials during a large number of metabolically important reactions. [NIH]

Amoxicillin: A broad-spectrum semisynthetic antibiotic similar to ampicillin except that its resistance to gastric acid permits higher serum levels with oral administration. [NIH]

Ampicillin: Semi-synthetic derivative of penicillin that functions as an orally active broad-spectrum antibiotic. [NIH]

Amplification: The production of additional copies of a chromosomal DNA sequence, found as either intrachromosomal or extrachromosomal DNA. [NIH]

Ampulla: A sac-like enlargement of a canal or duct. [NIH]

Anaesthesia: Loss of feeling or sensation. Although the term is used for loss of tactile sensibility, or of any of the other senses, it is applied especially to loss of the sensation of pain, as it is induced to permit performance of surgery or other painful procedures. [EU]

Anal: Having to do with the anus, which is the posterior opening of the large bowel. [NIH]

Anal Fissure: A small tear in the anus that may cause itching, pain, or bleeding. [NIH]

Analog: In chemistry, a substance that is similar, but not identical, to another. [NIH]

Anaphylatoxins: The family of peptides C3a, C4a, C5a, and C5a des-arginine produced in the serum during complement activation. They produce smooth muscle contraction, mast cell histamine release, affect platelet aggregation, and act as mediators of the local inflammatory process. The order of anaphylatoxin activity from strongest to weakest is C5a, C3a, C4a, and C5a des-arginine. The latter is the so-called "classical" anaphylatoxin but shows no spasmogenic activity though it contains some chemotactic ability. [NIH]

Anaplasia: Loss of structural differentiation and useful function of neoplastic cells. [NIH]

Anatomical: Pertaining to anatomy, or to the structure of the organism. [EU]

Anemia: A reduction in the number of circulating erythrocytes or in the quantity of hemoglobin. [NIH]

Angiogenesis: Blood vessel formation. Tumor angiogenesis is the growth of blood vessels from surrounding tissue to a solid tumor. This is caused by the release of chemicals by the tumor. [NIH]

Anode: Electrode held at a positive potential with respect to a cathode. [NIH]

Anorexia: Lack or loss of appetite for food. Appetite is psychologic, dependent on memory and associations. Anorexia can be brought about by unattractive food, surroundings, or company. [NIH]

Anorexia Nervosa: The chief symptoms are inability to eat, weight loss, and amenorrhea. [NIH]

Anthracycline: A member of a family of anticancer drugs that are also antibiotics. [NIH]

Antibacterial: A substance that destroys bacteria or suppresses their growth or reproduction. [EU]

Antibiotic: A drug used to treat infections caused by bacteria and other microorganisms. [NIH]

Antibodies: Immunoglobulin molecules having a specific amino acid sequence by virtue of which they interact only with the antigen that induced their synthesis in cells of the lymphoid series (especially plasma cells), or with an antigen closely related to it. [NIH]

Antibody: A type of protein made by certain white blood cells in response to a foreign substance (antigen). Each antibody can bind to only a specific antigen. The purpose of this binding is to help destroy the antigen. Antibodies can work in several ways, depending on the nature of the antigen. Some antibodies destroy antigens directly. Others make it easier for white blood cells to destroy the antigen. [NIH]

Antibody therapy: Treatment with an antibody, a substance that can directly kill specific tumor cells or stimulate the immune system to kill tumor cells. [NIH]

Anticoagulant: A drug that helps prevent blood clots from forming. Also called a blood thinner. [NIH]

Antidote: A remedy for counteracting a poison. [EU]

Antigen: Any substance which is capable, under appropriate conditions, of inducing a specific immune response and of reacting with the products of that response, that is, with specific antibody or specifically sensitized T-lymphocytes, or both. Antigens may be soluble substances, such as toxins and foreign proteins, or particulate, such as bacteria and tissue cells; however, only the portion of the protein or polysaccharide molecule known as the antigenic determinant (q.v.) combines with antibody or a specific receptor on a lymphocyte. Abbreviated Ag. [EU]

Antigen-Antibody Complex: The complex formed by the binding of antigen and antibody molecules. The deposition of large antigen-antibody complexes leading to tissue damage causes immune complex diseases. [NIH]

Anti-inflammatory: Having to do with reducing inflammation. [NIH]

Anti-Inflammatory Agents: Substances that reduce or suppress inflammation. [NIH]

Antimetabolite: A chemical that is very similar to one required in a normal biochemical reaction in cells. Antimetabolites can stop or slow down the reaction. [NIH]

Antimicrobial: Killing microorganisms, or suppressing their multiplication or growth. [EU]

Antineoplastic: Inhibiting or preventing the development of neoplasms, checking the maturation and proliferation of malignant cells. [EU]

Antioxidant: A substance that prevents damage caused by free radicals. Free radicals are highly reactive chemicals that often contain oxygen. They are produced when molecules are

split to give products that have unpaired electrons. This process is called oxidation. [NIH]

Antiproliferative: Counteracting a process of proliferation. [EU]

Antiviral: Destroying viruses or suppressing their replication. [EU]

Anuria: Inability to form or excrete urine. [NIH]

Anus: The opening of the rectum to the outside of the body. [NIH]

Aorta: The main trunk of the systemic arteries. [NIH]

Aortic Aneurysm: Aneurysm of the aorta. [NIH]

Apolipoproteins: The protein components of lipoproteins which remain after the lipids to which the proteins are bound have been removed. They play an important role in lipid transport and metabolism. [NIH]

Apoptosis: One of the two mechanisms by which cell death occurs (the other being the pathological process of necrosis). Apoptosis is the mechanism responsible for the physiological deletion of cells and appears to be intrinsically programmed. It is characterized by distinctive morphologic changes in the nucleus and cytoplasm, chromatin cleavage at regularly spaced sites, and the endonucleolytic cleavage of genomic DNA (DNA fragmentation) at internucleosomal sites. This mode of cell death serves as a balance to mitosis in regulating the size of animal tissues and in mediating pathologic processes associated with tumor growth. [NIH]

Appendicitis: Acute inflammation of the vermiform appendix. [NIH]

Apraxia: Loss of ability to perform purposeful movements, in the absence of paralysis or sensory disturbance, caused by lesions in the cortex. [NIH]

Aqueous: Having to do with water. [NIH]

Arginine: An essential amino acid that is physiologically active in the L-form. [NIH]

Aromatic: Having a spicy odour. [EU]

Arrhythmia: Any variation from the normal rhythm or rate of the heart beat. [NIH]

Arterial: Pertaining to an artery or to the arteries. [EU]

Arteries: The vessels carrying blood away from the heart. [NIH]

Ascites: Accumulation or retention of free fluid within the peritoneal cavity. [NIH]

Aspartic: The naturally occurring substance is L-aspartic acid. One of the acidic-amino-acids is obtained by the hydrolysis of proteins. [NIH]

Aspartic Acid: One of the non-essential amino acids commonly occurring in the L-form. It is found in animals and plants, especially in sugar cane and sugar beets. It may be a neurotransmitter. [NIH]

Aspiration: The act of inhaling. [NIH]

Aspirin: A drug that reduces pain, fever, inflammation, and blood clotting. Aspirin belongs to the family of drugs called nonsteroidal anti-inflammatory agents. It is also being studied in cancer prevention. [NIH]

Assay: Determination of the amount of a particular constituent of a mixture, or of the biological or pharmacological potency of a drug. [EU]

Asymptomatic: Having no signs or symptoms of disease. [NIH]

Ataxia: Impairment of the ability to perform smoothly coordinated voluntary movements. This condition may affect the limbs, trunk, eyes, pharnyx, larnyx, and other structures. Ataxia may result from impaired sensory or motor function. Sensory ataxia may result from posterior column injury or peripheral nerve diseases. Motor ataxia may be associated with

cerebellar diseases; cerebral cortex diseases; thalamic diseases; basal ganglia diseases; injury to the red nucleus; and other conditions. [NIH]

Atrophic Gastritis: Chronic irritation of the stomach lining. Causes the stomach lining and glands to wither away. [NIH]

Atrophy: Decrease in the size of a cell, tissue, organ, or multiple organs, associated with a variety of pathological conditions such as abnormal cellular changes, ischemia, malnutrition, or hormonal changes. [NIH]

Atypical: Irregular; not conformable to the type; in microbiology, applied specifically to strains of unusual type. [EU]

Autoimmune disease: A condition in which the body recognizes its own tissues as foreign and directs an immune response against them. [NIH]

Autonomic: Self-controlling; functionally independent. [EU]

Autonomic Nervous System: The enteric, parasympathetic, and sympathetic nervous systems taken together. Generally speaking, the autonomic nervous system regulates the internal environment during both peaceful activity and physical or emotional stress. Autonomic activity is controlled and integrated by the central nervous system, especially the hypothalamus and the solitary nucleus, which receive information relayed from visceral afferents; these and related central and sensory structures are sometimes (but not here) considered to be part of the autonomic nervous system itself. [NIH]

Autopsy: Postmortem examination of the body. [NIH]

Avidin: A specific protein in egg albumin that interacts with biotin to render it unavailable to mammals, thereby producing biotin deficiency. [NIH]

Bacteria: Unicellular prokaryotic microorganisms which generally possess rigid cell walls, multiply by cell division, and exhibit three principal forms: round or coccal, rodlike or bacillary, and spiral or spirochetal. [NIH]

Bacterial Proteins: Proteins found in any species of bacterium. [NIH]

Bacteriophage: A virus whose host is a bacterial cell; A virus that exclusively infects bacteria. It generally has a protein coat surrounding the genome (DNA or RNA). One of the coliphages most extensively studied is the lambda phage, which is also one of the most important. [NIH]

Bacteriostatic: 1. Inhibiting the growth or multiplication of bacteria. 2. An agent that inhibits the growth or multiplication of bacteria. [EU]

Bacterium: Microscopic organism which may have a spherical, rod-like, or spiral unicellular or non-cellular body. Bacteria usually reproduce through asexual processes. [NIH]

Basal cells: Small, round cells found in the lower part (or base) of the epidermis, the outer layer of the skin. [NIH]

Basal Ganglia: Large subcortical nuclear masses derived from the telencephalon and located in the basal regions of the cerebral hemispheres. [NIH]

Basal Ganglia Diseases: Diseases of the basal ganglia including the putamen; globus pallidus; claustrum; amygdala; and caudate nucleus. Dyskinesias (most notably involuntary movements and alterations of the rate of movement) represent the primary clinical manifestations of these disorders. Common etiologies include cerebrovascular disease; neurodegenerative diseases; and craniocerebral trauma. [NIH]

Base: In chemistry, the nonacid part of a salt; a substance that combines with acids to form salts; a substance that dissociates to give hydroxide ions in aqueous solutions; a substance whose molecule or ion can combine with a proton (hydrogen ion); a substance capable of

donating a pair of electrons (to an acid) for the formation of a coordinate covalent bond. [EU]

Base Sequence: The sequence of purines and pyrimidines in nucleic acids and polynucleotides. It is also called nucleotide or nucleoside sequence. [NIH]

Basement Membrane: Ubiquitous supportive tissue adjacent to epithelium and around smooth and striated muscle cells. This tissue contains intrinsic macromolecular components such as collagen, laminin, and sulfated proteoglycans. As seen by light microscopy one of its subdivisions is the basal (basement) lamina. [NIH]

Benign: Not cancerous; does not invade nearby tissue or spread to other parts of the body. [NIH]

Benign prostatic hyperplasia: A benign (noncancerous) condition in which an overgrowth of prostate tissue pushes against the urethra and the bladder, blocking the flow of urine. Also called benign prostatic hypertrophy or BPH. [NIH]

Benign tumor: A noncancerous growth that does not invade nearby tissue or spread to other parts of the body. [NIH]

Benzo(a)pyrene: A potent mutagen and carcinogen. It is a public health concern because of its possible effects on industrial workers, as an environmental pollutant, an as a component of tobacco smoke. [NIH]

Beta Rays: A stream of positive or negative electrons ejected with high energy from a disintegrating atomic nucleus; most biomedically used isotopes emit negative particles (electrons or negatrons, rather than positrons). Cathode rays are low-energy negative electrons produced in cathode ray tubes, also called television tubes or oscilloscopes. [NIH]

Beta-Thromboglobulin: A platelet-specific protein which is released when platelets aggregate. Elevated plasma levels have been reported after deep venous thrombosis, pre-eclampsia, myocardial infarction with mural thrombosis, and myeloproliferative disorders. Measurement of beta-thromboglobulin in biological fluids by radioimmunoassay is used for the diagnosis and assessment of progress of thromboembolic disorders. [NIH]

Bile: An emulsifying agent produced in the liver and secreted into the duodenum. Its composition includes bile acids and salts, cholesterol, and electrolytes. It aids digestion of fats in the duodenum. [NIH]

Bile Acids: Acids made by the liver that work with bile to break down fats. [NIH]

Bile Acids and Salts: Steroid acids and salts. The primary bile acids are derived from cholesterol in the liver and usually conjugated with glycine or taurine. The secondary bile acids are further modified by bacteria in the intestine. They play an important role in the digestion and absorption of fat. They have also been used pharmacologically, especially in the treatment of gallstones. [NIH]

Bile Ducts: Tubes that carry bile from the liver to the gallbladder for storage and to the small intestine for use in digestion. [NIH]

Bile Pigments: Pigments that give a characteristic color to bile including: bilirubin, biliverdine, and bilicyanin. [NIH]

Bile Reflux: Reflux of bile mainly into the upper digestive tract, but also into the pancreas. [NIH]

Bilirubin: A bile pigment that is a degradation product of heme. [NIH]

Biochemical: Relating to biochemistry; characterized by, produced by, or involving chemical reactions in living organisms. [EU]

Biochemical reactions: In living cells, chemical reactions that help sustain life and allow cells to grow. [NIH]

Biological response modifier: BRM. A substance that stimulates the body's response to infection and disease. [NIH]

Biological Transport: The movement of materials (including biochemical substances and drugs) across cell membranes and epithelial layers, usually by passive diffusion. [NIH]

Biomarkers: Substances sometimes found in an increased amount in the blood, other body fluids, or tissues and that may suggest the presence of some types of cancer. Biomarkers include CA 125 (ovarian cancer), CA 15-3 (breast cancer), CEA (ovarian, lung, breast, pancreas, and GI tract cancers), and PSA (prostate cancer). Also called tumor markers. [NIH]

Biopsy: Removal and pathologic examination of specimens in the form of small pieces of tissue from the living body. [NIH]

Biopsy specimen: Tissue removed from the body and examined under a microscope to determine whether disease is present. [NIH]

Biotechnology: Body of knowledge related to the use of organisms, cells or cell-derived constituents for the purpose of developing products which are technically, scientifically and clinically useful. Alteration of biologic function at the molecular level (i.e., genetic engineering) is a central focus; laboratory methods used include transfection and cloning technologies, sequence and structure analysis algorithms, computer databases, and gene and protein structure function analysis and prediction. [NIH]

Biotin: Hexahydro-2-oxo-1H-thieno(3,4-d)imidazole-4-pentanoic acid. Growth factor present in minute amounts in every living cell. It occurs mainly bound to proteins or polypeptides and is abundant in liver, kidney, pancreas, yeast, and milk.The biotin content of cancerous tissue is higher than that of normal tissue. [NIH]

Bismuth: A metallic element that has the atomic symbol Bi, atomic number 83 and atomic weight 208.98. [NIH]

Bismuth Subsalicylate: A nonprescription medicine such as Pepto-Bismol. Used to treat diarrhea, heartburn, indigestion, and nausea. It is also part of the treatment for ulcers caused by the bacterium Helicobacter pylori (HELL-uh-koh-BAK-tur py-LOH-ree). [NIH]

Bladder: The organ that stores urine. [NIH]

Blast phase: The phase of chronic myelogenous leukemia in which the number of immature, abnormal white blood cells in the bone marrow and blood is extremely high. Also called blast crisis. [NIH]

Bloating: Fullness or swelling in the abdomen that often occurs after meals. [NIH]

Blood Cell Count: A count of the number of leukocytes and erythrocytes per unit volume in a sample of venous blood. A complete blood count (CBC) also includes measurement of the hemoglobin, hematocrit, and erythrocyte indices. [NIH]

Blood Coagulation: The process of the interaction of blood coagulation factors that results in an insoluble fibrin clot. [NIH]

Blood Groups: The classification systems (or schemes) of the different antigens located on erythrocytes.The antigens are the phenotypic expression of the genetic differences characteristic of specific blood groups. [NIH]

Blood pressure: The pressure of blood against the walls of a blood vessel or heart chamber. Unless there is reference to another location, such as the pulmonary artery or one of the heart chambers, it refers to the pressure in the systemic arteries, as measured, for example, in the forearm. [NIH]

Blood vessel: A tube in the body through which blood circulates. Blood vessels include a network of arteries, arterioles, capillaries, venules, and veins. [NIH]

Bloom Syndrome: An autosomal recessive disorder characterized by telangiectatic erythema of the face, photosensitivity, dwarfism, and other abnormalities. [NIH]

Blot: To transfer DNA, RNA, or proteins to an immobilizing matrix such as nitrocellulose. [NIH]

Body Fluids: Liquid components of living organisms. [NIH]

Body Regions: Anatomical areas of the body. [NIH]

Bone Marrow: The soft tissue filling the cavities of bones. Bone marrow exists in two types, yellow and red. Yellow marrow is found in the large cavities of large bones and consists mostly of fat cells and a few primitive blood cells. Red marrow is a hematopoietic tissue and is the site of production of erythrocytes and granular leukocytes. Bone marrow is made up of a framework of connective tissue containing branching fibers with the frame being filled with marrow cells. [NIH]

Bone metastases: Cancer that has spread from the original (primary) tumor to the bone. [NIH]

Bowel: The long tube-shaped organ in the abdomen that completes the process of digestion. There is both a small and a large bowel. Also called the intestine. [NIH]

Bowel Movement: Body wastes passed through the rectum and anus. [NIH]

Brachytherapy: A collective term for interstitial, intracavity, and surface radiotherapy. It uses small sealed or partly-sealed sources that may be placed on or near the body surface or within a natural body cavity or implanted directly into the tissues. [NIH]

Bradykinin: A nonapeptide messenger that is enzymatically produced from kallidin in the blood where it is a potent but short-lived agent of arteriolar dilation and increased capillary permeability. Bradykinin is also released from mast cells during asthma attacks, from gut walls as a gastrointestinal vasodilator, from damaged tissues as a pain signal, and may be a neurotransmitter. [NIH]

Branch: Most commonly used for branches of nerves, but applied also to other structures. [NIH]

Breakdown: A physical, metal, or nervous collapse. [NIH]

Broad-spectrum: Effective against a wide range of microorganisms; said of an antibiotic. [EU]

Bromodeoxyuridine: A nucleoside that substitutes for thymidine in DNA and thus acts as an antimetabolite. It causes breaks in chromosomes and has been proposed as an antiviral and antineoplastic agent. It has been given orphan drug status for use in the treatment of primary brain tumors. [NIH]

Bronchitis: Inflammation (swelling and reddening) of the bronchi. [NIH]

Buccal: Pertaining to or directed toward the cheek. In dental anatomy, used to refer to the buccal surface of a tooth. [EU]

Bulimia: Episodic binge eating. The episodes may be associated with the fear of not being able to stop eating, depressed mood, or self-deprecating thoughts (binge-eating disorder) and may frequently be terminated by self-induced vomiting (bulimia nervosa). [NIH]

Butylated Hydroxyanisole: Mixture of 2- and 3-tert-butyl-4-methoxyphenols that is used as an antioxidant in foods, cosmetics, and pharmaceuticals. [NIH]

Butylated Hydroxytoluene: Antioxidant used in foods, cosmetics, petroleum products, etc. It may inhibit some neoplasms and facilitate others. [NIH]

Calcium: A basic element found in nearly all organized tissues. It is a member of the alkaline earth family of metals with the atomic symbol Ca, atomic number 20, and atomic weight 40. Calcium is the most abundant mineral in the body and combines with

phosphorus to form calcium phosphate in the bones and teeth. It is essential for the normal functioning of nerves and muscles and plays a role in blood coagulation (as factor IV) and in many enzymatic processes. [NIH]

Calcium channel blocker: A drug used to relax the blood vessel and heart muscle, causing pressure inside blood vessels to drop. It also can regulate heart rhythm. [NIH]

Calculi: An abnormal concretion occurring mostly in the urinary and biliary tracts, usually composed of mineral salts. Also called stones. [NIH]

Camptothecin: An alkaloid isolated from the stem wood of the Chinese tree, Camptotheca acuminata. This compound selectively inhibits the nuclear enzyme DNA topoisomerase. Several semisynthetic analogs of camptothecin have demonstrated antitumor activity. [NIH]

Capecitabine: An anticancer drug that belongs to the family of drugs called antimetabolites. [NIH]

Carbohydrate: An aldehyde or ketone derivative of a polyhydric alcohol, particularly of the pentahydric and hexahydric alcohols. They are so named because the hydrogen and oxygen are usually in the proportion to form water, (CH2O)n. The most important carbohydrates are the starches, sugars, celluloses, and gums. They are classified into mono-, di-, tri-, poly- and heterosaccharides. [EU]

Carbon Dioxide: A colorless, odorless gas that can be formed by the body and is necessary for the respiration cycle of plants and animals. [NIH]

Carcinogen: Any substance that causes cancer. [NIH]

Carcinogenesis: The process by which normal cells are transformed into cancer cells. [NIH]

Carcinogenic: Producing carcinoma. [EU]

Carcinoid: A type of tumor usually found in the gastrointestinal system (most often in the appendix), and sometimes in the lungs or other sites. Carcinoid tumors are usually benign. [NIH]

Carcinoma: Cancer that begins in the skin or in tissues that line or cover internal organs. [NIH]

Carcinoma in Situ: A malignant tumor that has not yet invaded the basement membrane of the epithelial cell of origin and has not spread to other tissues. [NIH]

Cardia: That part of the stomach surrounded by the esophagogastric junction, characterized by the lack of acid-forming cells. [NIH]

Cardiac: Having to do with the heart. [NIH]

Cardiotoxicity: Toxicity that affects the heart. [NIH]

Carotene: The general name for a group of pigments found in green, yellow, and leafy vegetables, and yellow fruits. The pigments are fat-soluble, unsaturated aliphatic hydrocarbons functioning as provitamins and are converted to vitamin A through enzymatic processes in the intestinal wall. [NIH]

Carotenoids: Substance found in yellow and orange fruits and vegetables and in dark green, leafy vegetables. May reduce the risk of developing cancer. [NIH]

Case report: A detailed report of the diagnosis, treatment, and follow-up of an individual patient. Case reports also contain some demographic information about the patient (for example, age, gender, ethnic origin). [NIH]

Case series: A group or series of case reports involving patients who were given similar treatment. Reports of case series usually contain detailed information about the individual patients. This includes demographic information (for example, age, gender, ethnic origin) and information on diagnosis, treatment, response to treatment, and follow-up after

treatment. [NIH]

Caspases: A family of intracellular cysteine endopeptidases. They play a key role in inflammation and mammalian apoptosis. They are specific for aspartic acid at the P1 position. They are divided into two classes based on the lengths of their N-terminal prodomains. Caspases-1,-2,-4,-5,-8, and -10 have long prodomains and -3,-6,-7,-9 have short prodomains. EC 3.4.22.-. [NIH]

Catalase: An oxidoreductase that catalyzes the conversion of hydrogen peroxide to water and oxygen. It is present in many animal cells. A deficiency of this enzyme results in acatalasia. EC 1.11.1.6. [NIH]

Catecholamine: A group of chemical substances manufactured by the adrenal medulla and secreted during physiological stress. [NIH]

Cathode: An electrode, usually an incandescent filament of tungsten, which emits electrons in an X-ray tube. [NIH]

Causal: Pertaining to a cause; directed against a cause. [EU]

Cause of Death: Factors which produce cessation of all vital bodily functions. They can be analyzed from an epidemiologic viewpoint. [NIH]

Cecum: The beginning of the large intestine. The cecum is connected to the lower part of the small intestine, called the ileum. [NIH]

Celiac Disease: A disease characterized by intestinal malabsorption and precipitated by gluten-containing foods. The intestinal mucosa shows loss of villous structure. [NIH]

Cell: The individual unit that makes up all of the tissues of the body. All living things are made up of one or more cells. [NIH]

Cell Cycle: The complex series of phenomena, occurring between the end of one cell division and the end of the next, by which cellular material is divided between daughter cells. [NIH]

Cell Death: The termination of the cell's ability to carry out vital functions such as metabolism, growth, reproduction, responsiveness, and adaptability. [NIH]

Cell Differentiation: Progressive restriction of the developmental potential and increasing specialization of function which takes place during the development of the embryo and leads to the formation of specialized cells, tissues, and organs. [NIH]

Cell Division: The fission of a cell. [NIH]

Cell proliferation: An increase in the number of cells as a result of cell growth and cell division. [NIH]

Cell Respiration: The metabolic process of all living cells (animal and plant) in which oxygen is used to provide a source of energy for the cell. [NIH]

Cell Size: The physical dimensions of a cell. It refers mainly to changes in dimensions correlated with physiological or pathological changes in cells. [NIH]

Cellulose: A polysaccharide with glucose units linked as in cellobiose. It is the chief constituent of plant fibers, cotton being the purest natural form of the substance. As a raw material, it forms the basis for many derivatives used in chromatography, ion exchange materials, explosives manufacturing, and pharmaceutical preparations. [NIH]

Central Nervous System: The main information-processing organs of the nervous system, consisting of the brain, spinal cord, and meninges. [NIH]

Ceramide: A type of fat produced in the body. It may cause some types of cells to die, and is being studied in cancer treatment. [NIH]

Cerebellar: Pertaining to the cerebellum. [EU]

Cerebral: Of or pertaining of the cerebrum or the brain. [EU]

Cerebrovascular: Pertaining to the blood vessels of the cerebrum, or brain. [EU]

Cerebrum: The largest part of the brain. It is divided into two hemispheres, or halves, called the cerebral hemispheres. The cerebrum controls muscle functions of the body and also controls speech, emotions, reading, writing, and learning. [NIH]

Cervical: Relating to the neck, or to the neck of any organ or structure. Cervical lymph nodes are located in the neck; cervical cancer refers to cancer of the uterine cervix, which is the lower, narrow end (the "neck") of the uterus. [NIH]

Cervix: The lower, narrow end of the uterus that forms a canal between the uterus and vagina. [NIH]

Character: In current usage, approximately equivalent to personality. The sum of the relatively fixed personality traits and habitual modes of response of an individual. [NIH]

Chemopreventive: Natural or synthetic compound used to intervene in the early precancerous stages of carcinogenesis. [NIH]

Chemoprotective: A quality of some drugs used in cancer treatment. Chemoprotective agents protect healthy tissue from the toxic effects of anticancer drugs. [NIH]

Chemoreceptors: Cells specialized to detect chemical substances and relay that information centrally in the nervous system. Chemoreceptors may monitor external stimuli, as in taste and olfaction, or internal stimuli, such as the concentrations of oxygen and carbon dioxide in the blood. [NIH]

Chemotactic Factors: Chemical substances that attract or repel cells or organisms. The concept denotes especially those factors released as a result of tissue injury, invasion, or immunologic activity, that attract leukocytes, macrophages, or other cells to the site of infection or insult. [NIH]

Chemotaxis: The movement of cells or organisms toward or away from a substance in response to its concentration gradient. [NIH]

Chemotherapy: Treatment with anticancer drugs. [NIH]

Cholelithiasis: Presence or formation of gallstones. [NIH]

Cholesterol: The principal sterol of all higher animals, distributed in body tissues, especially the brain and spinal cord, and in animal fats and oils. [NIH]

Cholesterol Esters: Fatty acid esters of cholesterol which constitute about two-thirds of the cholesterol in the plasma. The accumulation of cholesterol esters in the arterial intima is a characteristic feature of atherosclerosis. [NIH]

Chromatin: The material of chromosomes. It is a complex of DNA, histones, and nonhistone proteins (chromosomal proteins, non-histone) found within the nucleus of a cell. [NIH]

Chromosomal: Pertaining to chromosomes. [EU]

Chromosome: Part of a cell that contains genetic information. Except for sperm and eggs, all human cells contain 46 chromosomes. [NIH]

Chronic: A disease or condition that persists or progresses over a long period of time. [NIH]

Chronic lymphocytic leukemia: A slowly progressing disease in which too many white blood cells (called lymphocytes) are found in the body. [NIH]

Chronic myelogenous leukemia: CML. A slowly progressing disease in which too many white blood cells are made in the bone marrow. Also called chronic myeloid leukemia or chronic granulocytic leukemia. [NIH]

Chronic Obstructive Pulmonary Disease: Collective term for chronic bronchitis and emphysema. [NIH]

Chronic phase: Refers to the early stages of chronic myelogenous leukemia or chronic lymphocytic leukemia. The number of mature and immature abnormal white blood cells in the bone marrow and blood is higher than normal, but lower than in the accelerated or blast phase. [NIH]

Chronic renal: Slow and progressive loss of kidney function over several years, often resulting in end-stage renal disease. People with end-stage renal disease need dialysis or transplantation to replace the work of the kidneys. [NIH]

Chylomicrons: A class of lipoproteins that carry dietary cholesterol and triglycerides from the small intestines to the tissues. [NIH]

Cimetidine: A histamine congener, it competitively inhibits histamine binding to H2 receptors. Cimetidine has a range of pharmacological actions. It inhibits gastric acid secretion, as well as pepsin and gastrin output. It also blocks the activity of cytochrome P-450. [NIH]

CIS: Cancer Information Service. The CIS is the National Cancer Institute's link to the public, interpreting and explaining research findings in a clear and understandable manner, and providing personalized responses to specific questions about cancer. Access the CIS by calling 1-800-4-CANCER, or by using the Web site at http://cis.nci.nih.gov. [NIH]

Cisplatin: An inorganic and water-soluble platinum complex. After undergoing hydrolysis, it reacts with DNA to produce both intra and interstrand crosslinks. These crosslinks appear to impair replication and transcription of DNA. The cytotoxicity of cisplatin correlates with cellular arrest in the G2 phase of the cell cycle. [NIH]

Clarithromycin: A semisynthetic macrolide antibiotic derived from erythromycin that is active against a variety of microorganisms. It can inhibit protein synthesis in bacteria by reversibly binding to the 50S ribosomal subunits. This inhibits the translocation of aminoacyl transfer-RNA and prevents peptide chain elongation. [NIH]

Clear cell carcinoma: A rare type of tumor of the female genital tract in which the inside of the cells looks clear when viewed under a microscope. [NIH]

Clinical Medicine: The study and practice of medicine by direct examination of the patient. [NIH]

Clinical study: A research study in which patients receive treatment in a clinic or other medical facility. Reports of clinical studies can contain results for single patients (case reports) or many patients (case series or clinical trials). [NIH]

Clinical trial: A research study that tests how well new medical treatments or other interventions work in people. Each study is designed to test new methods of screening, prevention, diagnosis, or treatment of a disease. [NIH]

Clone: The term "clone" has acquired a new meaning. It is applied specifically to the bits of inserted foreign DNA in the hybrid molecules of the population. Each inserted segment originally resided in the DNA of a complex genome amid millions of other DNA segment. [NIH]

Cloning: The production of a number of genetically identical individuals; in genetic engineering, a process for the efficient replication of a great number of identical DNA molecules. [NIH]

Coal: A natural fuel formed by partial decomposition of vegetable matter under certain environmental conditions. [NIH]

Cod Liver Oil: Oil obtained from fresh livers of the cod family, Gadidae. It is a source of

vitamins A and D. [NIH]

Codon: A set of three nucleotides in a protein coding sequence that specifies individual amino acids or a termination signal (codon, terminator). Most codons are universal, but some organisms do not produce the transfer RNAs (RNA, transfer) complementary to all codons. These codons are referred to as unassigned codons (codons, nonsense). [NIH]

Cofactor: A substance, microorganism or environmental factor that activates or enhances the action of another entity such as a disease-causing agent. [NIH]

Colic: Paroxysms of pain. This condition usually occurs in the abdominal region but may occur in other body regions as well. [NIH]

Colitis: Inflammation of the colon. [NIH]

Collagen: A polypeptide substance comprising about one third of the total protein in mammalian organisms. It is the main constituent of skin, connective tissue, and the organic substance of bones and teeth. Different forms of collagen are produced in the body but all consist of three alpha-polypeptide chains arranged in a triple helix. Collagen is differentiated from other fibrous proteins, such as elastin, by the content of proline, hydroxyproline, and hydroxylysine; by the absence of tryptophan; and particularly by the high content of polar groups which are responsible for its swelling properties. [NIH]

Colloidal: Of the nature of a colloid. [EU]

Colon Polyps: Small, fleshy, mushroom-shaped growths in the colon. [NIH]

Colony-Stimulating Factors: Glycoproteins found in a subfraction of normal mammalian plasma and urine. They stimulate the proliferation of bone marrow cells in agar cultures and the formation of colonies of granulocytes and/or macrophages. The factors include interleukin-3 (IL-3), granulocyte colony-stimulating factor (G-CSF), macrophage colony-stimulating factor (M-CSF), and granulocyte-macrophage colony-stimulating factor (GM-CSF). [NIH]

Colorectal: Having to do with the colon or the rectum. [NIH]

Colorectal Cancer: Cancer that occurs in the colon (large intestine) or the rectum (the end of the large intestine). A number of digestive diseases may increase a person's risk of colorectal cancer, including polyposis and Zollinger-Ellison Syndrome. [NIH]

Combination chemotherapy: Treatment using more than one anticancer drug. [NIH]

Complement: A term originally used to refer to the heat-labile factor in serum that causes immune cytolysis, the lysis of antibody-coated cells, and now referring to the entire functionally related system comprising at least 20 distinct serum proteins that is the effector not only of immune cytolysis but also of other biologic functions. Complement activation occurs by two different sequences, the classic and alternative pathways. The proteins of the classic pathway are termed 'components of complement' and are designated by the symbols C1 through C9. C1 is a calcium-dependent complex of three distinct proteins C1q, C1r and C1s. The proteins of the alternative pathway (collectively referred to as the properdin system) and complement regulatory proteins are known by semisystematic or trivial names. Fragments resulting from proteolytic cleavage of complement proteins are designated with lower-case letter suffixes, e.g., C3a. Inactivated fragments may be designated with the suffix 'i', e.g. C3bi. Activated components or complexes with biological activity are designated by a bar over the symbol e.g. C1 or C4b,2a. The classic pathway is activated by the binding of C1 to classic pathway activators, primarily antigen-antibody complexes containing IgM, IgG1, IgG3; C1q binds to a single IgM molecule or two adjacent IgG molecules. The alternative pathway can be activated by IgA immune complexes and also by nonimmunologic materials including bacterial endotoxins, microbial polysaccharides, and cell walls. Activation of the classic pathway triggers an enzymatic cascade involving C1, C4, C2 and C3; activation of the

alternative pathway triggers a cascade involving C3 and factors B, D and P. Both result in the cleavage of C5 and the formation of the membrane attack complex. Complement activation also results in the formation of many biologically active complement fragments that act as anaphylatoxins, opsonins, or chemotactic factors. [EU]

Complementary and alternative medicine: CAM. Forms of treatment that are used in addition to (complementary) or instead of (alternative) standard treatments. These practices are not considered standard medical approaches. CAM includes dietary supplements, megadose vitamins, herbal preparations, special teas, massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Complementary medicine: Practices not generally recognized by the medical community as standard or conventional medical approaches and used to enhance or complement the standard treatments. Complementary medicine includes the taking of dietary supplements, megadose vitamins, and herbal preparations; the drinking of special teas; and practices such as massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Computational Biology: A field of biology concerned with the development of techniques for the collection and manipulation of biological data, and the use of such data to make biological discoveries or predictions. This field encompasses all computational methods and theories applicable to molecular biology and areas of computer-based techniques for solving biological problems including manipulation of models and datasets. [NIH]

Conjugated: Acting or operating as if joined; simultaneous. [EU]

Connective Tissue: Tissue that supports and binds other tissues. It consists of connective tissue cells embedded in a large amount of extracellular matrix. [NIH]

Connective Tissue: Tissue that supports and binds other tissues. It consists of connective tissue cells embedded in a large amount of extracellular matrix. [NIH]

Constipation: Infrequent or difficult evacuation of feces. [NIH]

Consumption: Pulmonary tuberculosis. [NIH]

Contamination: The soiling or pollution by inferior material, as by the introduction of organisms into a wound, or sewage into a stream. [EU]

Contraindications: Any factor or sign that it is unwise to pursue a certain kind of action or treatment, e. g. giving a general anesthetic to a person with pneumonia. [NIH]

Control group: In a clinical trial, the group that does not receive the new treatment being studied. This group is compared to the group that receives the new treatment, to see if the new treatment works. [NIH]

Conventional therapy: A currently accepted and widely used treatment for a certain type of disease, based on the results of past research. Also called conventional treatment. [NIH]

Conventional treatment: A currently accepted and widely used treatment for a certain type of disease, based on the results of past research. Also called conventional therapy. [NIH]

Cornea: The transparent part of the eye that covers the iris and the pupil and allows light to enter the inside. [NIH]

Coronary: Encircling in the manner of a crown; a term applied to vessels; nerves, ligaments, etc. The term usually denotes the arteries that supply the heart muscle and, by extension, a pathologic involvement of them. [EU]

Coronary Disease: Disorder of cardiac function due to an imbalance between myocardial function and the capacity of the coronary vessels to supply sufficient flow for normal function. It is a form of myocardial ischemia (insufficient blood supply to the heart muscle) caused by a decreased capacity of the coronary vessels. [NIH]

Coronary heart disease: A type of heart disease caused by narrowing of the coronary arteries that feed the heart, which needs a constant supply of oxygen and nutrients carried by the blood in the coronary arteries. When the coronary arteries become narrowed or clogged by fat and cholesterol deposits and cannot supply enough blood to the heart, CHD results. [NIH]

Coronary Thrombosis: Presence of a thrombus in a coronary artery, often causing a myocardial infarction. [NIH]

Coronary Vessels: The veins and arteries of the heart. [NIH]

Corpus: The body of the uterus. [NIH]

Cortex: The outer layer of an organ or other body structure, as distinguished from the internal substance. [EU]

Creatinine: A compound that is excreted from the body in urine. Creatinine levels are measured to monitor kidney function. [NIH]

Crystallization: The formation of crystals; conversion to a crystalline form. [EU]

Curative: Tending to overcome disease and promote recovery. [EU]

Cutaneous: Having to do with the skin. [NIH]

Cyclic: Pertaining to or occurring in a cycle or cycles; the term is applied to chemical compounds that contain a ring of atoms in the nucleus. [EU]

Cysteine: A thiol-containing non-essential amino acid that is oxidized to form cystine. [NIH]

Cysteine Endopeptidases: Endopeptidases which have a cysteine involved in the catalytic process. This group of enzymes is inactivated by sulfhydryl reagents. EC 3.4.22. [NIH]

Cystine: A covalently linked dimeric nonessential amino acid formed by the oxidation of cysteine. Two molecules of cysteine are joined together by a disulfide bridge to form cystine. [NIH]

Cytochrome: Any electron transfer hemoprotein having a mode of action in which the transfer of a single electron is effected by a reversible valence change of the central iron atom of the heme prosthetic group between the +2 and +3 oxidation states; classified as cytochromes a in which the heme contains a formyl side chain, cytochromes b, which contain protoheme or a closely similar heme that is not covalently bound to the protein, cytochromes c in which protoheme or other heme is covalently bound to the protein, and cytochromes d in which the iron-tetrapyrrole has fewer conjugated double bonds than the hemes have. Well-known cytochromes have been numbered consecutively within groups and are designated by subscripts (beginning with no subscript), e.g. cytochromes c, c1, C2, . New cytochromes are named according to the wavelength in nanometres of the absorption maximum of the a-band of the iron (II) form in pyridine, e.g., c-555. [EU]

Cytokine: Small but highly potent protein that modulates the activity of many cell types, including T and B cells. [NIH]

Cytoplasm: The protoplasm of a cell exclusive of that of the nucleus; it consists of a continuous aqueous solution (cytosol) and the organelles and inclusions suspended in it (phaneroplasm), and is the site of most of the chemical activities of the cell. [EU]

Cytotoxic: Cell-killing. [NIH]

Cytotoxicity: Quality of being capable of producing a specific toxic action upon cells of special organs. [NIH]

Databases, Bibliographic: Extensive collections, reputedly complete, of references and citations to books, articles, publications, etc., generally on a single subject or specialized subject area. Databases can operate through automated files, libraries, or computer disks.

The concept should be differentiated from factual databases which is used for collections of data and facts apart from bibliographic references to them. [NIH]

Daunorubicin: Very toxic anthracycline aminoglycoside antibiotic isolated from Streptomyces peucetius and others, used in treatment of leukemias and other neoplasms. [NIH]

Deamination: The removal of an amino group (NH2) from a chemical compound. [NIH]

Death Certificates: Official records of individual deaths including the cause of death certified by a physician, and any other required identifying information. [NIH]

Decompression: Decompression external to the body, most often the slow lessening of external pressure on the whole body (especially in caisson workers, deep sea divers, and persons who ascend to great heights) to prevent decompression sickness. It includes also sudden accidental decompression, but not surgical (local) decompression or decompression applied through body openings. [NIH]

Decompression Sickness: A condition occurring as a result of exposure to a rapid fall in ambient pressure. Gases, nitrogen in particular, come out of solution and form bubbles in body fluid and blood. These gas bubbles accumulate in joint spaces and the peripheral circulation impairing tissue oxygenation causing disorientation, severe pain, and potentially death. [NIH]

Defense Mechanisms: Unconscious process used by an individual or a group of individuals in order to cope with impulses, feelings or ideas which are not acceptable at their conscious level; various types include reaction formation, projection and self reversal. [NIH]

Degenerative: Undergoing degeneration : tending to degenerate; having the character of or involving degeneration; causing or tending to cause degeneration. [EU]

Dehydration: The condition that results from excessive loss of body water. [NIH]

Deletion: A genetic rearrangement through loss of segments of DNA (chromosomes), bringing sequences, which are normally separated, into close proximity. [NIH]

Density: The logarithm to the base 10 of the opacity of an exposed and processed film. [NIH]

Depolarization: The process or act of neutralizing polarity. In neurophysiology, the reversal of the resting potential in excitable cell membranes when stimulated, i.e., the tendency of the cell membrane potential to become positive with respect to the potential outside the cell. [EU]

DES: Diethylstilbestrol. A synthetic hormone that was prescribed from the early 1940s until 1971 to help women with complications of pregnancy. DES has been linked to an increased risk of clear cell carcinoma of the vagina in daughters of women who used DES. DES may also increase the risk of breast cancer in women who used DES. [NIH]

Detoxification: Treatment designed to free an addict from his drug habit. [EU]

Deuterium: Deuterium. The stable isotope of hydrogen. It has one neutron and one proton in the nucleus. [NIH]

Developed Countries: Countries that have reached a level of economic achievement through an increase of production, per capita income and consumption, and utilization of natural and human resources. [NIH]

Developing Countries: Countries in the process of change directed toward economic growth, that is, an increase in production, per capita consumption, and income. The process of economic growth involves better utilization of natural and human resources, which results in a change in the social, political, and economic structures. [NIH]

Diagnostic procedure: A method used to identify a disease. [NIH]

Diaphragm: The musculofibrous partition that separates the thoracic cavity from the

abdominal cavity. Contraction of the diaphragm increases the volume of the thoracic cavity aiding inspiration. [NIH]

Diarrhea: Passage of excessively liquid or excessively frequent stools. [NIH]

Diarrhoea: Abnormal frequency and liquidity of faecal discharges. [EU]

Diethylcarbamazine: An anthelmintic used primarily as the citrate in the treatment of filariasis, particularly infestations with Wucheria bancrofti or Loa loa. [NIH]

Diffusion: The tendency of a gas or solute to pass from a point of higher pressure or concentration to a point of lower pressure or concentration and to distribute itself throughout the available space; a major mechanism of biological transport. [NIH]

Digestion: The process of breakdown of food for metabolism and use by the body. [NIH]

Digestive system: The organs that take in food and turn it into products that the body can use to stay healthy. Waste products the body cannot use leave the body through bowel movements. The digestive system includes the salivary glands, mouth, esophagus, stomach, liver, pancreas, gallbladder, small and large intestines, and rectum. [NIH]

Digestive tract: The organs through which food passes when food is eaten. These organs are the mouth, esophagus, stomach, small and large intestines, and rectum. [NIH]

Dihydrotestosterone: Anabolic agent. [NIH]

Dilatation: The act of dilating. [NIH]

Diploid: Having two sets of chromosomes. [NIH]

Direct: 1. Straight; in a straight line. 2. Performed immediately and without the intervention of subsidiary means. [EU]

Disease Progression: The worsening of a disease over time. This concept is most often used for chronic and incurable diseases where the stage of the disease is an important determinant of therapy and prognosis. [NIH]

Dissection: Cutting up of an organism for study. [NIH]

Distal: Remote; farther from any point of reference; opposed to proximal. In dentistry, used to designate a position on the dental arch farther from the median line of the jaw. [EU]

Diuretic: A drug that increases the production of urine. [NIH]

Diverticula: Plural form of diverticulum. [NIH]

Diverticulitis: Inflammation of a diverticulum or diverticula. [NIH]

Diverticulum: A pathological condition manifested as a pouch or sac opening from a tubular or sacular organ. [NIH]

Docetaxel: An anticancer drug that belongs to the family of drugs called mitotic inhibitors. [NIH]

Dorsal: 1. Pertaining to the back or to any dorsum. 2. Denoting a position more toward the back surface than some other object of reference; same as posterior in human anatomy; superior in the anatomy of quadrupeds. [EU]

Dorsum: A plate of bone which forms the posterior boundary of the sella turcica. [NIH]

Doxorubicin: Antineoplastic antibiotic obtained from Streptomyces peucetics. It is a hydroxy derivative of daunorubicin and is used in treatment of both leukemia and solid tumors. [NIH]

Drug Interactions: The action of a drug that may affect the activity, metabolism, or toxicity of another drug. [NIH]

Drug Tolerance: Progressive diminution of the susceptibility of a human or animal to the

effects of a drug, resulting from its continued administration. It should be differentiated from drug resistance wherein an organism, disease, or tissue fails to respond to the intended effectiveness of a chemical or drug. It should also be differentiated from maximum tolerated dose and no-observed-adverse-effect level. [NIH]

Duodenal Ulcer: An ulcer in the lining of the first part of the small intestine (duodenum). [NIH]

Duodenum: The first part of the small intestine. [NIH]

Dwarfism: The condition of being undersized as a result of premature arrest of skeletal growth. It may be caused by insufficient secretion of growth hormone (pituitary dwarfism). [NIH]

Dysentery: Any of various disorders marked by inflammation of the intestines, especially of the colon, and attended by pain in the abdomen, tenesmus, and frequent stools containing blood and mucus. Causes include chemical irritants, bacteria, protozoa, or parasitic worms. [EU]

Dyspepsia: Impaired digestion, especially after eating. [NIH]

Dysplasia: Cells that look abnormal under a microscope but are not cancer. [NIH]

Dyspnea: Difficult or labored breathing. [NIH]

Dystrophy: Any disorder arising from defective or faulty nutrition, especially the muscular dystrophies. [EU]

Ectoderm: The outer of the three germ layers of the embryo. [NIH]

Ectopic: Pertaining to or characterized by ectopia. [EU]

Ectopic Pregnancy: The pregnancy occurring elsewhere than in the cavity of the uterus. [NIH]

Effector: It is often an enzyme that converts an inactive precursor molecule into an active second messenger. [NIH]

Efficacy: The extent to which a specific intervention, procedure, regimen, or service produces a beneficial result under ideal conditions. Ideally, the determination of efficacy is based on the results of a randomized control trial. [NIH]

Effusion: The escape of fluid into a part or tissue, as an exudation or a transudation. [EU]

Ejaculation: The release of semen through the penis during orgasm. [NIH]

Elective: Subject to the choice or decision of the patient or physician; applied to procedures that are advantageous to the patient but not urgent. [EU]

Electrolyte: A substance that dissociates into ions when fused or in solution, and thus becomes capable of conducting electricity; an ionic solute. [EU]

Electrons: Stable elementary particles having the smallest known negative charge, present in all elements; also called negatrons. Positively charged electrons are called positrons. The numbers, energies and arrangement of electrons around atomic nuclei determine the chemical identities of elements. Beams of electrons are called cathode rays or beta rays, the latter being a high-energy biproduct of nuclear decay. [NIH]

Electrophoresis: An electrochemical process in which macromolecules or colloidal particles with a net electric charge migrate in a solution under the influence of an electric current. [NIH]

Elementary Particles: Individual components of atoms, usually subatomic; subnuclear particles are usually detected only when the atomic nucleus decays and then only transiently, as most of them are unstable, often yielding pure energy without substance, i.e., radiation. [NIH]

Embryo: The prenatal stage of mammalian development characterized by rapid morphological changes and the differentiation of basic structures. [NIH]

Emergency Medicine: A branch of medicine concerned with an individual's resuscitation, transportation and care from the point of injury or beginning of illness through the hospital or other emergency treatment facility. [NIH]

Emergency Treatment: First aid or other immediate intervention for accidents or medical conditions requiring immediate care and treatment before definitive medical and surgical management can be procured. [NIH]

Emphysema: A pathological accumulation of air in tissues or organs. [NIH]

Emulsion: A preparation of one liquid distributed in small globules throughout the body of a second liquid. The dispersed liquid is the discontinuous phase, and the dispersion medium is the continuous phase. When oil is the dispersed liquid and an aqueous solution is the continuous phase, it is known as an oil-in-water emulsion, whereas when water or aqueous solution is the dispersed phase and oil or oleaginous substance is the continuous phase, it is known as a water-in-oil emulsion. Pharmaceutical emulsions for which official standards have been promulgated include cod liver oil emulsion, cod liver oil emulsion with malt, liquid petrolatum emulsion, and phenolphthalein in liquid petrolatum emulsion. [EU]

Encapsulated: Confined to a specific, localized area and surrounded by a thin layer of tissue. [NIH]

Endemic: Present or usually prevalent in a population or geographical area at all times; said of a disease or agent. Called also endemial. [EU]

Endometrial: Having to do with the endometrium (the layer of tissue that lines the uterus). [NIH]

Endometriosis: A condition in which tissue more or less perfectly resembling the uterine mucous membrane (the endometrium) and containing typical endometrial granular and stromal elements occurs aberrantly in various locations in the pelvic cavity. [NIH]

Endometrium: The layer of tissue that lines the uterus. [NIH]

Endoscope: A thin, lighted tube used to look at tissues inside the body. [NIH]

Endoscopic: A technique where a lateral-view endoscope is passed orally to the duodenum for visualization of the ampulla of Vater. [NIH]

Endoscopy: Endoscopic examination, therapy or surgery performed on interior parts of the body. [NIH]

Endothelial cell: The main type of cell found in the inside lining of blood vessels, lymph vessels, and the heart. [NIH]

Endothelium: A layer of epithelium that lines the heart, blood vessels (endothelium, vascular), lymph vessels (endothelium, lymphatic), and the serous cavities of the body. [NIH]

Endothelium-derived: Small molecule that diffuses to the adjacent muscle layer and relaxes it. [NIH]

Endotoxins: Toxins closely associated with the living cytoplasm or cell wall of certain microorganisms, which do not readily diffuse into the culture medium, but are released upon lysis of the cells. [NIH]

End-stage renal: Total chronic kidney failure. When the kidneys fail, the body retains fluid and harmful wastes build up. A person with ESRD needs treatment to replace the work of the failed kidneys. [NIH]

Enteritis: Inflammation of the intestine, applied chiefly to inflammation of the small intestine; see also enterocolitis. [EU]

Enterocolitis: Inflammation of the intestinal mucosa of the small and large bowel. [NIH]

Enteropeptidase: A specialized proteolytic enzyme secreted by intestinal cells. It converts trypsinogen into its active form trypsin by removing the N-terminal peptide. EC 3.4.21.9. [NIH]

Environmental Exposure: The exposure to potentially harmful chemical, physical, or biological agents in the environment or to environmental factors that may include ionizing radiation, pathogenic organisms, or toxic chemicals. [NIH]

Environmental Health: The science of controlling or modifying those conditions, influences, or forces surrounding man which relate to promoting, establishing, and maintaining health. [NIH]

Environmental Pollutants: Substances which pollute the environment. Use for environmental pollutants in general or for which there is no specific heading. [NIH]

Enzymatic: Phase where enzyme cuts the precursor protein. [NIH]

Enzyme: A protein that speeds up chemical reactions in the body. [NIH]

Eosinophil: A polymorphonuclear leucocyte with large eosinophilic granules in its cytoplasm, which plays a role in hypersensitivity reactions. [NIH]

Eosinophilic: A condition found primarily in grinding workers caused by a reaction of the pulmonary tissue, in particular the eosinophilic cells, to dust that has entered the lung. [NIH]

Epidemic: Occurring suddenly in numbers clearly in excess of normal expectancy; said especially of infectious diseases but applied also to any disease, injury, or other health-related event occurring in such outbreaks. [EU]

Epidemiological: Relating to, or involving epidemiology. [EU]

Epidermal: Pertaining to or resembling epidermis. Called also epidermic or epidermoid. [EU]

Epidermal Growth Factor: A 6 kD polypeptide growth factor initially discovered in mouse submaxillary glands. Human epidermal growth factor was originally isolated from urine based on its ability to inhibit gastric secretion and called urogastrone. epidermal growth factor exerts a wide variety of biological effects including the promotion of proliferation and differentiation of mesenchymal and epithelial cells. [NIH]

Epidermis: Nonvascular layer of the skin. It is made up, from within outward, of five layers: 1) basal layer (stratum basale epidermidis); 2) spinous layer (stratum spinosum epidermidis); 3) granular layer (stratum granulosum epidermidis); 4) clear layer (stratum lucidum epidermidis); and 5) horny layer (stratum corneum epidermidis). [NIH]

Epidermoid carcinoma: A type of cancer in which the cells are flat and look like fish scales. Also called squamous cell carcinoma. [NIH]

Epigastric: Having to do with the upper middle area of the abdomen. [NIH]

Epinephrine: The active sympathomimetic hormone from the adrenal medulla in most species. It stimulates both the alpha- and beta- adrenergic systems, causes systemic vasoconstriction and gastrointestinal relaxation, stimulates the heart, and dilates bronchi and cerebral vessels. It is used in asthma and cardiac failure and to delay absorption of local anesthetics. [NIH]

Epirubicin: An anthracycline antibiotic which is the 4'-epi-isomer of doxorubicin. The compound exerts its antitumor effects by interference with the synthesis and function of DNA. Clinical studies indicate activity in breast cancer, non-Hodgkin's lymphomas, ovarian cancer, soft-tissue sarcomas, pancreatic cancer, gastric cancer, small-cell lung cancer and acute leukemia. It is equal in activity to doxorubicin but exhibits less acute toxicities and less cardiotoxicity. [NIH]

Epithelial: Refers to the cells that line the internal and external surfaces of the body. [NIH]

Epithelial Cells: Cells that line the inner and outer surfaces of the body. [NIH]

Epithelium: One or more layers of epithelial cells, supported by the basal lamina, which covers the inner or outer surfaces of the body. [NIH]

Erythema: Redness of the skin produced by congestion of the capillaries. This condition may result from a variety of causes. [NIH]

Erythrocytes: Red blood cells. Mature erythrocytes are non-nucleated, biconcave disks containing hemoglobin whose function is to transport oxygen. [NIH]

Erythromycin: A bacteriostatic antibiotic substance produced by Streptomyces erythreus. Erythromycin A is considered its major active component. In sensitive organisms, it inhibits protein synthesis by binding to 50S ribosomal subunits. This binding process inhibits peptidyl transferase activity and interferes with translocation of amino acids during translation and assembly of proteins. [NIH]

Erythropoietin: Glycoprotein hormone, secreted chiefly by the kidney in the adult and the liver in the fetus, that acts on erythroid stem cells of the bone marrow to stimulate proliferation and differentiation. [NIH]

Esophageal: Having to do with the esophagus, the muscular tube through which food passes from the throat to the stomach. [NIH]

Esophagogastroduodenoscopy: Exam of the upper digestive tract using an endoscope. [NIH]

Esophagus: The muscular tube through which food passes from the throat to the stomach. [NIH]

Essential Tremor: A rhythmic, involuntary, purposeless, oscillating movement resulting from the alternate contraction and relaxation of opposing groups of muscles. [NIH]

Etoposide: A semisynthetic derivative of podophyllotoxin that exhibits antitumor activity. Etoposide inhibits DNA synthesis by forming a complex with topoisomerase II and DNA. This complex induces breaks in double stranded DNA and prevents repair by topoisomerase II binding. Accumulated breaks in DNA prevent entry into the mitotic phase of cell division, and lead to cell death. Etoposide acts primarily in the G2 and S phases of the cell cycle. [NIH]

Eukaryotic Cells: Cells of the higher organisms, containing a true nucleus bounded by a nuclear membrane. [NIH]

Evacuation: An emptying, as of the bowels. [EU]

Evoke: The electric response recorded from the cerebral cortex after stimulation of a peripheral sense organ. [NIH]

Excitation: An act of irritation or stimulation or of responding to a stimulus; the addition of energy, as the excitation of a molecule by absorption of photons. [EU]

Excrete: To get rid of waste from the body. [NIH]

Exhaustion: The feeling of weariness of mind and body. [NIH]

Exocrine: Secreting outwardly, via a duct. [EU]

Extensor: A muscle whose contraction tends to straighten a limb; the antagonist of a flexor. [NIH]

External-beam radiation: Radiation therapy that uses a machine to aim high-energy rays at the cancer. Also called external radiation. [NIH]

Extracellular: Outside a cell or cells. [EU]

Exudate: Material, such as fluid, cells, or cellular debris, which has escaped from blood

vessels and has been deposited in tissues or on tissue surfaces, usually as a result of inflammation. An exudate, in contrast to a transudate, is characterized by a high content of protein, cells, or solid materials derived from cells. [EU]

Eye Infections: Infection, moderate to severe, caused by bacteria, fungi, or viruses, which occurs either on the external surface of the eye or intraocularly with probable inflammation, visual impairment, or blindness. [NIH]

Family Health: The health status of the family as a unit including the impact of the health of one member of the family on the family as a unit and on individual family members; also, the impact of family organization or disorganization on the health status of its members. [NIH]

Family Planning: Programs or services designed to assist the family in controlling reproduction by either improving or diminishing fertility. [NIH]

Fat: Total lipids including phospholipids. [NIH]

Fecal occult blood test: A test to check for blood in stool. (Fecal refers to stool; occult means hidden.) [NIH]

Feces: The excrement discharged from the intestines, consisting of bacteria, cells exfoliated from the intestines, secretions, chiefly of the liver, and a small amount of food residue. [EU]

Ferrets: Semidomesticated variety of European polecat much used for hunting rodents and/or rabbits and as a laboratory animal. [NIH]

Fertilizers: Substances or mixtures that are added to the soil to supply nutrients or to make available nutrients already present in the soil, in order to increase plant growth and productivity. [NIH]

Fetoprotein: Transabdominal aspiration of fluid from the amniotic sac with a view to detecting increases of alpha-fetoprotein in maternal blood during pregnancy, as this is an important indicator of open neural tube defects in the fetus. [NIH]

Fetus: The developing offspring from 7 to 8 weeks after conception until birth. [NIH]

Fibrin: A protein derived from fibrinogen in the presence of thrombin, which forms part of the blood clot. [NIH]

Fibrinogen: Plasma glycoprotein clotted by thrombin, composed of a dimer of three non-identical pairs of polypeptide chains (alpha, beta, gamma) held together by disulfide bonds. Fibrinogen clotting is a sol-gel change involving complex molecular arrangements: whereas fibrinogen is cleaved by thrombin to form polypeptides A and B, the proteolytic action of other enzymes yields different fibrinogen degradation products. [NIH]

Fibroblasts: Connective tissue cells which secrete an extracellular matrix rich in collagen and other macromolecules. [NIH]

Fibrosis: Any pathological condition where fibrous connective tissue invades any organ, usually as a consequence of inflammation or other injury. [NIH]

Filgrastim: A colony-stimulating factor that stimulates the production of neutrophils (a type of white blood cell). It is a cytokine that belongs to the family of drugs called hematopoietic (blood-forming) agents. Also called granulocyte colony-stimulating factor (G-CSF). [NIH]

Fistula: Abnormal communication most commonly seen between two internal organs, or between an internal organ and the surface of the body. [NIH]

Flagellin: A protein with a molecular weight of 40,000 isolated from bacterial flagella. At appropriate pH and salt concentration, three flagellin monomers can spontaneously reaggregate to form structures which appear identical to intact flagella. [NIH]

Flatulence: Production or presence of gas in the gastrointestinal tract which may be expelled

through the anus. [NIH]

Flatus: Gas passed through the rectum. [NIH]

Flow Cytometry: Technique using an instrument system for making, processing, and displaying one or more measurements on individual cells obtained from a cell suspension. Cells are usually stained with one or more fluorescent dyes specific to cell components of interest, e.g., DNA, and fluorescence of each cell is measured as it rapidly transverses the excitation beam (laser or mercury arc lamp). Fluorescence provides a quantitative measure of various biochemical and biophysical properties of the cell, as well as a basis for cell sorting. Other measurable optical parameters include light absorption and light scattering, the latter being applicable to the measurement of cell size, shape, density, granularity, and stain uptake. [NIH]

Floxuridine: An antineoplastic antimetabolite that is metabolized to fluorouracil when administered by rapid injection; when administered by slow, continuous, intra-arterial infusion, it is converted to floxuridine monophosphate. It has been used to treat hepatic metastases of gastrointestinal adenocarcinomas and for palliation in malignant neoplasms of the liver and gastrointestinal tract. [NIH]

Fluorescence: The property of emitting radiation while being irradiated. The radiation emitted is usually of longer wavelength than that incident or absorbed, e.g., a substance can be irradiated with invisible radiation and emit visible light. X-ray fluorescence is used in diagnosis. [NIH]

Fluorescent Dyes: Dyes that emit light when exposed to light. The wave length of the emitted light is usually longer than that of the incident light. Fluorochromes are substances that cause fluorescence in other substances, i.e., dyes used to mark or label other compounds with fluorescent tags. They are used as markers in biochemistry and immunology. [NIH]

Fluorouracil: A pyrimidine analog that acts as an antineoplastic antimetabolite and also has immunosuppressant. It interferes with DNA synthesis by blocking the thymidylate synthetase conversion of deoxyuridylic acid to thymidylic acid. [NIH]

Fold: A plication or doubling of various parts of the body. [NIH]

Folic Acid: N-(4-(((2-Amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl)amino)benzoyl)-L-glutamic acid. A member of the vitamin B family that stimulates the hematopoietic system. It is present in the liver and kidney and is found in mushrooms, spinach, yeast, green leaves, and grasses. Folic acid is used in the treatment and prevention of folate deficiencies and megaloblastic anemia. [NIH]

Follicles: Shafts through which hair grows. [NIH]

Fractionation: Dividing the total dose of radiation therapy into several smaller, equal doses delivered over a period of several days. [NIH]

Frameshift: A type of mutation which causes out-of-phase transcription of the base sequence; such mutations arise from the addition or delection of nucleotide(s) in numbers other than 3 or multiples of 3. [NIH]

Frameshift Mutation: A type of mutation in which a number of nucleotides not divisible by three is deleted from or inserted into a coding sequence, thereby causing an alteration in the reading frame of the entire sequence downstream of the mutation. These mutations may be induced by certain types of mutagens or may occur spontaneously. [NIH]

Fructose: A type of sugar found in many fruits and vegetables and in honey. Fructose is used to sweeten some diet foods. It is considered a nutritive sweetener because it has calories. [NIH]

Gallbladder: The pear-shaped organ that sits below the liver. Bile is concentrated and stored

in the gallbladder. [NIH]

Gallic Acid: A colorless or slightly yellow crystalline compound obtained from nutgalls. It is used in photography, pharmaceuticals, and as an analytical reagent. [NIH]

Gallstones: The solid masses or stones made of cholesterol or bilirubin that form in the gallbladder or bile ducts. [NIH]

Gamma Rays: Very powerful and penetrating, high-energy electromagnetic radiation of shorter wavelength than that of x-rays. They are emitted by a decaying nucleus, usually between 0.01 and 10 MeV. They are also called nuclear x-rays. [NIH]

Gas: Air that comes from normal breakdown of food. The gases are passed out of the body through the rectum (flatus) or the mouth (burp). [NIH]

Gas exchange: Primary function of the lungs; transfer of oxygen from inhaled air into the blood and of carbon dioxide from the blood into the lungs. [NIH]

Gastrectomy: An operation to remove all or part of the stomach. [NIH]

Gastric: Having to do with the stomach. [NIH]

Gastric Acid: Hydrochloric acid present in gastric juice. [NIH]

Gastric atrophy: A condition in which the stomach muscles shrink and become weak. The digestive (peptic) glands may also shrink, resulting in a lack of digestive juices. [NIH]

Gastric Emptying: The evacuation of food from the stomach into the duodenum. [NIH]

Gastric Juices: Liquids produced in the stomach to help break down food and kill bacteria. [NIH]

Gastric Mucosa: Surface epithelium in the stomach that invaginates into the lamina propria, forming gastric pits. Tubular glands, characteristic of each region of the stomach (cardiac, gastric, and pyloric), empty into the gastric pits. The gastric mucosa is made up of several different kinds of cells. [NIH]

Gastric Resection: An operation to remove part or all of the stomach. [NIH]

Gastric Stump: That portion of the stomach remaining after gastric surgery, usually gastrectomy or gastroenterostomy for cancer of the stomach or peptic ulcer. It is a common site of cancer referred to as stump cancer or carcinoma of the gastric stump. [NIH]

Gastrin: A hormone released after eating. Gastrin causes the stomach to produce more acid. [NIH]

Gastritis: Inflammation of the stomach. [EU]

Gastroduodenal: Pertaining to or communicating with the stomach and duodenum, as a gastroduodenal fistula. [EU]

Gastroenteritis: An acute inflammation of the lining of the stomach and intestines, characterized by anorexia, nausea, diarrhoea, abdominal pain, and weakness, which has various causes, including food poisoning due to infection with such organisms as Escherichia coli, Staphylococcus aureus, and Salmonella species; consumption of irritating food or drink; or psychological factors such as anger, stress, and fear. Called also enterogastritis. [EU]

Gastroenterology: A subspecialty of internal medicine concerned with the study of the physiology and diseases of the digestive system and related structures (esophagus, liver, gallbladder, and pancreas). [NIH]

Gastroenterostomy: Surgical construction of a channel between the stomach and intestines. [NIH]

Gastrointestinal: Refers to the stomach and intestines. [NIH]

Gastrointestinal tract: The stomach and intestines. [NIH]

Gastroparesis: Nerve or muscle damage in the stomach. Causes slow digestion and emptying, vomiting, nausea, or bloating. Also called delayed gastric emptying. [NIH]

Gastroscopy: Endoscopic examination, therapy, or surgery of the interior of the stomach. [NIH]

Gastrostomy: Creation of an artificial external opening into the stomach for nutritional support or gastrointestinal compression. [NIH]

Gelatin: A product formed from skin, white connective tissue, or bone collagen. It is used as a protein food adjuvant, plasma substitute, hemostatic, suspending agent in pharmaceutical preparations, and in the manufacturing of capsules and suppositories. [NIH]

Gene: The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein. [NIH]

Gene Amplification: A selective increase in the number of copies of a gene coding for a specific protein without a proportional increase in other genes. It occurs naturally via the excision of a copy of the repeating sequence from the chromosome and its extrachromosomal replication in a plasmid, or via the production of an RNA transcript of the entire repeating sequence of ribosomal RNA followed by the reverse transcription of the molecule to produce an additional copy of the original DNA sequence. Laboratory techniques have been introduced for inducing disproportional replication by unequal crossing over, uptake of DNA from lysed cells, or generation of extrachromosomal sequences from rolling circle replication. [NIH]

Gene Expression: The phenotypic manifestation of a gene or genes by the processes of gene action. [NIH]

Genetic Code: The specifications for how information, stored in nucleic acid sequence (base sequence), is translated into protein sequence (amino acid sequence). The start, stop, and order of amino acids of a protein is specified by consecutive triplets of nucleotides called codons (codon). [NIH]

Genetic Engineering: Directed modification of the gene complement of a living organism by such techniques as altering the DNA, substituting genetic material by means of a virus, transplanting whole nuclei, transplanting cell hybrids, etc. [NIH]

Genetic transcription: The process by which the genetic information encoded in the gene, represented as a linear sequence of deoxyribonucleotides, is copied into an exactly complementary sequence of ribonucleotides known as messenger RNA. [NIH]

Genetics: The biological science that deals with the phenomena and mechanisms of heredity. [NIH]

Genotype: The genetic constitution of the individual; the characterization of the genes. [NIH]

Giant Cells: Multinucleated masses produced by the fusion of many cells; often associated with viral infections. In AIDS, they are induced when the envelope glycoprotein of the HIV virus binds to the CD4 antigen of uninfected neighboring T4 cells. The resulting syncytium leads to cell death and thus may account for the cytopathic effect of the virus. [NIH]

Giardiasis: An infection of the small intestine caused by the flagellated protozoan Giardia lamblia. It is spread via contaminated food and water and by direct person-to-person contact. [NIH]

Ginseng: An araliaceous genus of plants that contains a number of pharmacologically active agents used as stimulants, sedatives, and tonics, especially in traditional medicine. [NIH]

Gland: An organ that produces and releases one or more substances for use in the body.

Some glands produce fluids that affect tissues or organs. Others produce hormones or participate in blood production. [NIH]

Glucose: D-Glucose. A primary source of energy for living organisms. It is naturally occurring and is found in fruits and other parts of plants in its free state. It is used therapeutically in fluid and nutrient replacement. [NIH]

Glucuronic Acid: Derivatives of uronic acid found throughout the plant and animal kingdoms. They detoxify drugs and toxins by conjugating with them to form glucuronides in the liver which are more water-soluble metabolites that can be easily eliminated from the body. [NIH]

Glutamate: Excitatory neurotransmitter of the brain. [NIH]

Glutathione Peroxidase: An enzyme catalyzing the oxidation of 2 moles of glutathione in the presence of hydrogen peroxide to yield oxidized glutathione and water. EC 1.11.1.9. [NIH]

Glutathione Transferase: A transferase that catalyzes the addition of aliphatic, aromatic, or heterocyclic radicals as well as epoxides and arene oxides to glutathione. Addition takes place at the sulfur atom. It also catalyzes the reduction of polyol nitrate by glutathione to polyol and nitrite. EC 2.5.1.18. [NIH]

Gluten: The protein of wheat and other grains which gives to the dough its tough elastic character. [EU]

Glycine: A non-essential amino acid. It is found primarily in gelatin and silk fibroin and used therapeutically as a nutrient. It is also a fast inhibitory neurotransmitter. [NIH]

Glycoprotein: A protein that has sugar molecules attached to it. [NIH]

Glycoside: Any compound that contains a carbohydrate molecule (sugar), particularly any such natural product in plants, convertible, by hydrolytic cleavage, into sugar and a nonsugar component (aglycone), and named specifically for the sugar contained, as glucoside (glucose), pentoside (pentose), fructoside (fructose) etc. [EU]

Gout: Hereditary metabolic disorder characterized by recurrent acute arthritis, hyperuricemia and deposition of sodium urate in and around the joints, sometimes with formation of uric acid calculi. [NIH]

Governing Board: The group in which legal authority is vested for the control of health-related institutions and organizations. [NIH]

Gp120: 120-kD HIV envelope glycoprotein which is involved in the binding of the virus to its membrane receptor, the CD4 molecule, found on the surface of certain cells in the body. [NIH]

Grade: The grade of a tumor depends on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Grading systems are different for each type of cancer. [NIH]

Graft: Healthy skin, bone, or other tissue taken from one part of the body and used to replace diseased or injured tissue removed from another part of the body. [NIH]

Graft Rejection: An immune response with both cellular and humoral components, directed against an allogeneic transplant, whose tissue antigens are not compatible with those of the recipient. [NIH]

Grafting: The operation of transfer of tissue from one site to another. [NIH]

Gram-negative: Losing the stain or decolorized by alcohol in Gram's method of staining, a primary characteristic of bacteria having a cell wall composed of a thin layer of peptidoglycan covered by an outer membrane of lipoprotein and lipopolysaccharide. [EU]

Granulocyte Colony-Stimulating Factor: A glycoprotein of MW 25 kDa containing internal disulfide bonds. It induces the survival, proliferation, and differentiation of neutrophilic granulocyte precursor cells and functionally activates mature blood neutrophils. Among the family of colony-stimulating factors, G-CSF is the most potent inducer of terminal differentiation to granulocytes and macrophages of leukemic myeloid cell lines. [NIH]

Granulocytes: Leukocytes with abundant granules in the cytoplasm. They are divided into three groups: neutrophils, eosinophils, and basophils. [NIH]

Groin: The external junctural region between the lower part of the abdomen and the thigh. [NIH]

Growth: The progressive development of a living being or part of an organism from its earliest stage to maturity. [NIH]

Guanylate Cyclase: An enzyme that catalyzes the conversion of GTP to 3',5'-cyclic GMP and pyrophosphate. It also acts on ITP and dGTP. (From Enzyme Nomenclature, 1992) EC 4.6.1.2. [NIH]

Hair follicles: Shafts or openings on the surface of the skin through which hair grows. [NIH]

Haploid: An organism with one basic chromosome set, symbolized by n; the normal condition of gametes in diploids. [NIH]

Health Status: The level of health of the individual, group, or population as subjectively assessed by the individual or by more objective measures. [NIH]

Heartburn: Substernal pain or burning sensation, usually associated with regurgitation of gastric juice into the esophagus. [NIH]

Helicobacter: A genus of gram-negative, spiral-shaped bacteria that is pathogenic and has been isolated from the intestinal tract of mammals, including humans. [NIH]

Helicobacter pylori: A spiral bacterium active as a human gastric pathogen. It is a gram-negative, urease-positive, curved or slightly spiral organism initially isolated in 1982 from patients with lesions of gastritis or peptic ulcers in Western Australia. Helicobacter pylori was originally classified in the genus Campylobacter, but RNA sequencing, cellular fatty acid profiles, growth patterns, and other taxonomic characteristics indicate that the micro-organism should be included in the genus Helicobacter. It has been officially transferred to Helicobacter gen. nov. (see Int J Syst Bacteriol 1989 Oct;39(4):297-405). [NIH]

Helminthiasis: Infestation with parasitic worms of the helminth class. [NIH]

Heme: The color-furnishing portion of hemoglobin. It is found free in tissues and as the prosthetic group in many hemeproteins. [NIH]

Hemodialysis: The use of a machine to clean wastes from the blood after the kidneys have failed. The blood travels through tubes to a dialyzer, which removes wastes and extra fluid. The cleaned blood then flows through another set of tubes back into the body. [NIH]

Hemoglobin: One of the fractions of glycosylated hemoglobin A1c. Glycosylated hemoglobin is formed when linkages of glucose and related monosaccharides bind to hemoglobin A and its concentration represents the average blood glucose level over the previous several weeks. HbA1c levels are used as a measure of long-term control of plasma glucose (normal, 4 to 6 percent). In controlled diabetes mellitus, the concentration of glycosylated hemoglobin A is within the normal range, but in uncontrolled cases the level may be 3 to 4 times the normal conentration. Generally, complications are substantially lower among patients with Hb levels of 7 percent or less than in patients with HbA1c levels of 9 percent or more. [NIH]

Hemoglobinuria: The presence of free hemoglobin in the urine. [NIH]

Hemolytic: A disease that affects the blood and blood vessels. It destroys red blood cells,

cells that cause the blood to clot, and the lining of blood vessels. HUS is often caused by the Escherichia coli bacterium in contaminated food. People with HUS may develop acute renal failure. [NIH]

Hemorrhage: Bleeding or escape of blood from a vessel. [NIH]

Hemorrhoids: Varicosities of the hemorrhoidal venous plexuses. [NIH]

Heparin: Heparinic acid. A highly acidic mucopolysaccharide formed of equal parts of sulfated D-glucosamine and D-glucuronic acid with sulfaminic bridges. The molecular weight ranges from six to twenty thousand. Heparin occurs in and is obtained from liver, lung, mast cells, etc., of vertebrates. Its function is unknown, but it is used to prevent blood clotting in vivo and vitro, in the form of many different salts. [NIH]

Hepatic: Refers to the liver. [NIH]

Hepatitis: Inflammation of the liver and liver disease involving degenerative or necrotic alterations of hepatocytes. [NIH]

Hepatocellular: Pertaining to or affecting liver cells. [EU]

Hepatocellular carcinoma: A type of adenocarcinoma, the most common type of liver tumor. [NIH]

Hepatocytes: The main structural component of the liver. They are specialized epithelial cells that are organized into interconnected plates called lobules. [NIH]

Hepatoma: A liver tumor. [NIH]

Hepatomegaly: Enlargement of the liver. [NIH]

Hereditary: Of, relating to, or denoting factors that can be transmitted genetically from one generation to another. [NIH]

Heredity: 1. The genetic transmission of a particular quality or trait from parent to offspring. 2. The genetic constitution of an individual. [EU]

Herpes: Any inflammatory skin disease caused by a herpesvirus and characterized by the formation of clusters of small vesicles. When used alone, the term may refer to herpes simplex or to herpes zoster. [EU]

Herpes virus: A member of the herpes family of viruses. [NIH]

Herpes Zoster: Acute vesicular inflammation. [NIH]

Hiatal Hernia: A small opening in the diaphragm that allows the upper part of the stomach to move up into the chest. Causes heartburn from stomach acid flowing back up through the opening. [NIH]

Histamine: 1H-Imidazole-4-ethanamine. A depressor amine derived by enzymatic decarboxylation of histidine. It is a powerful stimulant of gastric secretion, a constrictor of bronchial smooth muscle, a vasodilator, and also a centrally acting neurotransmitter. [NIH]

Histidine: An essential amino acid important in a number of metabolic processes. It is required for the production of histamine. [NIH]

Histology: The study of tissues and cells under a microscope. [NIH]

Homeopathic remedies: Small doses of medicines, herbs, or both that are believed to stimulate the immune system. [NIH]

Homeostasis: The processes whereby the internal environment of an organism tends to remain balanced and stable. [NIH]

Homologous: Corresponding in structure, position, origin, etc., as (a) the feathers of a bird and the scales of a fish, (b) antigen and its specific antibody, (c) allelic chromosomes. [EU]

Hormonal: Pertaining to or of the nature of a hormone. [EU]

Hormone: A substance in the body that regulates certain organs. Hormones such as gastrin help in breaking down food. Some hormones come from cells in the stomach and small intestine. [NIH]

Hormone therapy: Treatment of cancer by removing, blocking, or adding hormones. Also called endocrine therapy. [NIH]

Host: Any animal that receives a transplanted graft. [NIH]

Hybrid: Cross fertilization between two varieties or, more usually, two species of vines, see also crossing. [NIH]

Hybridization: The genetic process of crossbreeding to produce a hybrid. Hybrid nucleic acids can be formed by nucleic acid hybridization of DNA and RNA molecules. Protein hybridization allows for hybrid proteins to be formed from polypeptide chains. [NIH]

Hybridoma: A hybrid cell resulting from the fusion of a specific antibody-producing spleen cell with a myeloma cell. [NIH]

Hydrochloric Acid: A strong corrosive acid that is commonly used as a laboratory reagent. It is formed by dissolving hydrogen chloride in water. Gastric acid is the hydrochloric acid component of gastric juice. [NIH]

Hydrogen: The first chemical element in the periodic table. It has the atomic symbol H, atomic number 1, and atomic weight 1. It exists, under normal conditions, as a colorless, odorless, tasteless, diatomic gas. Hydrogen ions are protons. Besides the common H1 isotope, hydrogen exists as the stable isotope deuterium and the unstable, radioactive isotope tritium. [NIH]

Hydrogen Peroxide: A strong oxidizing agent used in aqueous solution as a ripening agent, bleach, and topical anti-infective. It is relatively unstable and solutions deteriorate over time unless stabilized by the addition of acetanilide or similar organic materials. [NIH]

Hydrolases: Any member of the class of enzymes that catalyze the cleavage of the substrate and the addition of water to the resulting molecules, e.g., esterases, glycosidases (glycoside hydrolases), lipases, nucleotidases, peptidases (peptide hydrolases), and phosphatases (phosphoric monoester hydrolases). EC 3. [NIH]

Hydrolysis: The process of cleaving a chemical compound by the addition of a molecule of water. [NIH]

Hydrophobic: Not readily absorbing water, or being adversely affected by water, as a hydrophobic colloid. [EU]

Hyperbilirubinemia: Pathologic process consisting of an abnormal increase in the amount of bilirubin in the circulating blood, which may result in jaundice. [NIH]

Hypercholesterolemia: Abnormally high levels of cholesterol in the blood. [NIH]

Hyperplasia: An increase in the number of cells in a tissue or organ, not due to tumor formation. It differs from hypertrophy, which is an increase in bulk without an increase in the number of cells. [NIH]

Hypersensitivity: Altered reactivity to an antigen, which can result in pathologic reactions upon subsequent exposure to that particular antigen. [NIH]

Hypertrophy: General increase in bulk of a part or organ, not due to tumor formation, nor to an increase in the number of cells. [NIH]

Hyperuricemia: A buildup of uric acid (a byproduct of metabolism) in the blood; a side effect of some anticancer drugs. [NIH]

Hypothalamus: Ventral part of the diencephalon extending from the region of the optic

chiasm to the caudal border of the mammillary bodies and forming the inferior and lateral walls of the third ventricle. [NIH]

Id: The part of the personality structure which harbors the unconscious instinctive desires and strivings of the individual. [NIH]

Idarubicin: An orally administered anthracycline antibiotic. The compound has shown activity against breast cancer, lymphomas and leukemias, together with potential for reduced cardiac toxicity. [NIH]

Ileus: Obstruction of the intestines. [EU]

Immune Complex Diseases: Group of diseases mediated by the deposition of large soluble complexes of antigen and antibody with resultant damage to tissue. Besides serum sickness and the arthus reaction, evidence supports a pathogenic role for immune complexes in many other systemic immunologic diseases including glomerulonephritis, systemic lupus erythematosus and polyarteritis nodosa. [NIH]

Immune function: Production and action of cells that fight disease or infection. [NIH]

Immune response: The activity of the immune system against foreign substances (antigens). [NIH]

Immune Sera: Serum that contains antibodies. It is obtained from an animal that has been immunized either by antigen injection or infection with microorganisms containing the antigen. [NIH]

Immune system: The organs, cells, and molecules responsible for the recognition and disposal of foreign ("non-self") material which enters the body. [NIH]

Immunity: Nonsusceptibility to the invasive or pathogenic effects of foreign microorganisms or to the toxic effect of antigenic substances. [NIH]

Immunization: Deliberate stimulation of the host's immune response. Active immunization involves administration of antigens or immunologic adjuvants. Passive immunization involves administration of immune sera or lymphocytes or their extracts (e.g., transfer factor, immune RNA) or transplantation of immunocompetent cell producing tissue (thymus or bone marrow). [NIH]

Immunocompromised: Having a weakened immune system caused by certain diseases or treatments. [NIH]

Immunodeficiency: The decreased ability of the body to fight infection and disease. [NIH]

Immunodiffusion: Technique involving the diffusion of antigen or antibody through a semisolid medium, usually agar or agarose gel, with the result being a precipitin reaction. [NIH]

Immunoelectrophoresis: A technique that combines protein electrophoresis and double immunodiffusion. In this procedure proteins are first separated by gel electrophoresis (usually agarose), then made visible by immunodiffusion of specific antibodies. A distinct elliptical precipitin arc results for each protein detectable by the antisera. [NIH]

Immunoglobulin: A protein that acts as an antibody. [NIH]

Immunohistochemistry: Histochemical localization of immunoreactive substances using labeled antibodies as reagents. [NIH]

Immunologic: The ability of the antibody-forming system to recall a previous experience with an antigen and to respond to a second exposure with the prompt production of large amounts of antibody. [NIH]

Immunology: The study of the body's immune system. [NIH]

Immunosuppressant: An agent capable of suppressing immune responses. [EU]

Immunosuppressive: Describes the ability to lower immune system responses. [NIH]

Immunosuppressive therapy: Therapy used to decrease the body's immune response, such as drugs given to prevent transplant rejection. [NIH]

Immunotherapy: Manipulation of the host's immune system in treatment of disease. It includes both active and passive immunization as well as immunosuppressive therapy to prevent graft rejection. [NIH]

Immunotoxin: An antibody linked to a toxic substance. Some immmunotoxins can bind to cancer cells and kill them. [NIH]

Impairment: In the context of health experience, an impairment is any loss or abnormality of psychological, physiological, or anatomical structure or function. [NIH]

Implant radiation: A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near the tumor. Also called [NIH]

Implantation: The insertion or grafting into the body of biological, living, inert, or radioactive material. [EU]

In situ: In the natural or normal place; confined to the site of origin without invasion of neighbouring tissues. [EU]

In Situ Hybridization: A technique that localizes specific nucleic acid sequences within intact chromosomes, eukaryotic cells, or bacterial cells through the use of specific nucleic acid-labeled probes. [NIH]

In vitro: In the laboratory (outside the body). The opposite of in vivo (in the body). [NIH]

In vivo: In the body. The opposite of in vitro (outside the body or in the laboratory). [NIH]

Incision: A cut made in the body during surgery. [NIH]

Incontinence: Inability to control the flow of urine from the bladder (urinary incontinence) or the escape of stool from the rectum (fecal incontinence). [NIH]

Indicative: That indicates; that points out more or less exactly; that reveals fairly clearly. [EU]

Indigestion: Poor digestion. Symptoms include heartburn, nausea, bloating, and gas. Also called dyspepsia. [NIH]

Induction: The act or process of inducing or causing to occur, especially the production of a specific morphogenetic effect in the developing embryo through the influence of evocators or organizers, or the production of anaesthesia or unconsciousness by use of appropriate agents. [EU]

Infarction: A pathological process consisting of a sudden insufficient blood supply to an area, which results in necrosis of that area. It is usually caused by a thrombus, an embolus, or a vascular torsion. [NIH]

Infection: 1. Invasion and multiplication of microorganisms in body tissues, which may be clinically unapparent or result in local cellular injury due to competitive metabolism, toxins, intracellular replication, or antigen-antibody response. The infection may remain localized, subclinical, and temporary if the body's defensive mechanisms are effective. A local infection may persist and spread by extension to become an acute, subacute, or chronic clinical infection or disease state. A local infection may also become systemic when the microorganisms gain access to the lymphatic or vascular system. 2. An infectious disease. [EU]

Infectious Mononucleosis: A common, acute infection usually caused by the Epstein-Barr virus (Human herpesvirus 4). There is an increase in mononuclear white blood cells and other atypical lymphocytes, generalized lymphadenopathy, splenomegaly, and occasionally hepatomegaly with hepatitis. [NIH]

Inflammation: A pathological process characterized by injury or destruction of tissues caused by a variety of cytologic and chemical reactions. It is usually manifested by typical signs of pain, heat, redness, swelling, and loss of function. [NIH]

Information Centers: Facilities for collecting and organizing information. They may be specialized by subject field, type of source material, persons served, location, or type of services. [NIH]

Information Systems: Integrated set of files, procedures, and equipment for the storage, manipulation, and retrieval of information. [NIH]

Infrared Rays: That portion of the electromagnetic spectrum usually sensed as heat. Infrared wavelengths are longer than those of visible light, extending into the microwave frequencies. They are used therapeutically as heat, and also to warm food in restaurants. [NIH]

Infusion: A method of putting fluids, including drugs, into the bloodstream. Also called intravenous infusion. [NIH]

Ingestion: Taking into the body by mouth [NIH]

Inguinal: Pertaining to the inguen, or groin. [EU]

Inhalation: The drawing of air or other substances into the lungs. [EU]

Initiation: Mutation induced by a chemical reactive substance causing cell changes; being a step in a carcinogenic process. [NIH]

Initiator: A chemically reactive substance which may cause cell changes if ingested, inhaled or absorbed into the body; the substance may thus initiate a carcinogenic process. [NIH]

Inorganic: Pertaining to substances not of organic origin. [EU]

Insulin: A protein hormone secreted by beta cells of the pancreas. Insulin plays a major role in the regulation of glucose metabolism, generally promoting the cellular utilization of glucose. It is also an important regulator of protein and lipid metabolism. Insulin is used as a drug to control insulin-dependent diabetes mellitus. [NIH]

Insulin-dependent diabetes mellitus: A disease characterized by high levels of blood glucose resulting from defects in insulin secretion, insulin action, or both. Autoimmune, genetic, and environmental factors are involved in the development of type I diabetes. [NIH]

Interferon: A biological response modifier (a substance that can improve the body's natural response to disease). Interferons interfere with the division of cancer cells and can slow tumor growth. There are several types of interferons, including interferon-alpha, -beta, and -gamma. These substances are normally produced by the body. They are also made in the laboratory for use in treating cancer and other diseases. [NIH]

Interferon-alpha: One of the type I interferons produced by peripheral blood leukocytes or lymphoblastoid cells when exposed to live or inactivated virus, double-stranded RNA, or bacterial products. It is the major interferon produced by virus-induced leukocyte cultures and, in addition to its pronounced antiviral activity, it causes activation of NK cells. [NIH]

Interleukin-1: A soluble factor produced by monocytes, macrophages, and other cells which activates T-lymphocytes and potentiates their response to mitogens or antigens. IL-1 consists of two distinct forms, IL-1 alpha and IL-1 beta which perform the same functions but are distinct proteins. The biological effects of IL-1 include the ability to replace macrophage requirements for T-cell activation. The factor is distinct from interleukin-2. [NIH]

Interleukin-12: A heterodimeric cytokine that stimulates the production of interferon gamma from T-cells and natural killer cells, and also induces differentiation of Th1 helper cells. It is an initiator of cell-mediated immunity. [NIH]

Interleukin-2: Chemical mediator produced by activated T lymphocytes and which regulates the proliferation of T cells, as well as playing a role in the regulation of NK cell activity. [NIH]

Interleukin-8: A cytokine that activates neutrophils and attracts neutrophils and T-lymphocytes. It is released by several cell types including monocytes, macrophages, T-lymphocytes, fibroblasts, endothelial cells, and keratinocytes by an inflammatory stimulus. IL-8 is a member of the beta-thromboglobulin superfamily and structurally related to platelet factor 4. [NIH]

Intermittent: Occurring at separated intervals; having periods of cessation of activity. [EU]

Internal Medicine: A medical specialty concerned with the diagnosis and treatment of diseases of the internal organ systems of adults. [NIH]

Internal radiation: A procedure in which radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near the tumor. Also called brachytherapy, implant radiation, or interstitial radiation therapy. [NIH]

Interstitial: Pertaining to or situated between parts or in the interspaces of a tissue. [EU]

Interstitial Collagenase: A member of the metalloproteinase family of enzymes that is principally responsible for cleaving fibrillar collagen. It can degrade interstitial collagens, types I, II and III. EC 3.4.24.7. [NIH]

Intestinal: Having to do with the intestines. [NIH]

Intestinal Polyps: Pedunculated or sessile growths arising from the intestinal mucosa and extending into the lumen. The disease includes intestinal polyposis. [NIH]

Intestine: A long, tube-shaped organ in the abdomen that completes the process of digestion. There is both a large intestine and a small intestine. Also called the bowel. [NIH]

Intracellular: Inside a cell. [NIH]

Intramuscular: IM. Within or into muscle. [NIH]

Intraperitoneal: IP. Within the peritoneal cavity (the area that contains the abdominal organs). [NIH]

Intraperitoneal chemotherapy: Treatment in which anticancer drugs are put directly into the abdominal cavity through a thin tube. [NIH]

Intravascular: Within a vessel or vessels. [EU]

Intravenous: IV. Into a vein. [NIH]

Invasive: 1. Having the quality of invasiveness. 2. Involving puncture or incision of the skin or insertion of an instrument or foreign material into the body; said of diagnostic techniques. [EU]

Involuntary: Reaction occurring without intention or volition. [NIH]

Ionizing: Radiation comprising charged particles, e. g. electrons, protons, alpha-particles, etc., having sufficient kinetic energy to produce ionization by collision. [NIH]

Ions: An atom or group of atoms that have a positive or negative electric charge due to a gain (negative charge) or loss (positive charge) of one or more electrons. Atoms with a positive charge are known as cations; those with a negative charge are anions. [NIH]

Irinotecan: An anticancer drug that belongs to a family of anticancer drugs called topoisomerase inhibitors. It is a camptothecin analogue. Also called CPT 11. [NIH]

Irradiation: The use of high-energy radiation from x-rays, neutrons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy) or from materials called radioisotopes. Radioisotopes

produce radiation and can be placed in or near the tumor or in the area near cancer cells. This type of radiation treatment is called internal radiation therapy, implant radiation, interstitial radiation, or brachytherapy. Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that circulates throughout the body. Irradiation is also called radiation therapy, radiotherapy, and x-ray therapy. [NIH]

Irritable Bowel Syndrome: A disorder that comes and goes. Nerves that control the muscles in the GI tract are too active. The GI tract becomes sensitive to food, stool, gas, and stress. Causes abdominal pain, bloating, and constipation or diarrhea. Also called spastic colon or mucous colitis. [NIH]

Irritants: Drugs that act locally on cutaneous or mucosal surfaces to produce inflammation; those that cause redness due to hyperemia are rubefacients; those that raise blisters are vesicants and those that penetrate sebaceous glands and cause abscesses are pustulants; tear gases and mustard gases are also irritants. [NIH]

Ischemia: Deficiency of blood in a part, due to functional constriction or actual obstruction of a blood vessel. [EU]

Isothiocyanates: Organic compounds with the general formula R-NCS. [NIH]

Isozymes: The multiple forms of a single enzyme. [NIH]

Jaundice: A clinical manifestation of hyperbilirubinemia, consisting of deposition of bile pigments in the skin, resulting in a yellowish staining of the skin and mucous membranes. [NIH]

Kb: A measure of the length of DNA fragments, 1 Kb = 1000 base pairs. The largest DNA fragments are up to 50 kilobases long. [NIH]

Keratinocyte growth factor: A substance that stimulates the growth of epithelial cells that line the surface of the mouth and intestinal tract. [NIH]

Keratinocytes: Epidermal cells which synthesize keratin and undergo characteristic changes as they move upward from the basal layers of the epidermis to the cornified (horny) layer of the skin. Successive stages of differentiation of the keratinocytes forming the epidermal layers are basal cell, spinous or prickle cell, and the granular cell. [NIH]

Kidney Disease: Any one of several chronic conditions that are caused by damage to the cells of the kidney. People who have had diabetes for a long time may have kidney damage. Also called nephropathy. [NIH]

Kidney Failure: The inability of a kidney to excrete metabolites at normal plasma levels under conditions of normal loading, or the inability to retain electrolytes under conditions of normal intake. In the acute form (kidney failure, acute), it is marked by uremia and usually by oliguria or anuria, with hyperkalemia and pulmonary edema. The chronic form (kidney failure, chronic) is irreversible and requires hemodialysis. [NIH]

Kidney Failure, Acute: A clinical syndrome characterized by a sudden decrease in glomerular filtration rate, often to values of less than 1 to 2 ml per minute. It is usually associated with oliguria (urine volumes of less than 400 ml per day) and is always associated with biochemical consequences of the reduction in glomerular filtration rate such as a rise in blood urea nitrogen (BUN) and serum creatinine concentrations. [NIH]

Kidney Failure, Chronic: An irreversible and usually progressive reduction in renal function in which both kidneys have been damaged by a variety of diseases to the extent that they are unable to adequately remove the metabolic products from the blood and regulate the body's electrolyte composition and acid-base balance. Chronic kidney failure requires hemodialysis or surgery, usually kidney transplantation. [NIH]

Kinetics: The study of rate dynamics in chemical or physical systems. [NIH]

Labile: 1. Gliding; moving from point to point over the surface; unstable; fluctuating. 2. Chemically unstable. [EU]

Lactose Intolerance: The disease state resulting from the absence of lactase enzyme in the musocal cells of the gastrointestinal tract, and therefore an inability to break down the disaccharide lactose in milk for absorption from the gastrointestinal tract. It is manifested by indigestion of a mild nature to severe diarrhea. It may be due to inborn defect genetically conditioned or may be acquired. [NIH]

Laparoscopy: Examination, therapy or surgery of the abdomen's interior by means of a laparoscope. [NIH]

Laparotomy: A surgical incision made in the wall of the abdomen. [NIH]

Large Intestine: The part of the intestine that goes from the cecum to the rectum. The large intestine absorbs water from stool and changes it from a liquid to a solid form. The large intestine is 5 feet long and includes the appendix, cecum, colon, and rectum. Also called colon. [NIH]

Laser therapy: The use of an intensely powerful beam of light to kill cancer cells. [NIH]

Latent: Phoria which occurs at one distance or another and which usually has no troublesome effect. [NIH]

Laxative: An agent that acts to promote evacuation of the bowel; a cathartic or purgative. [EU]

Lectin: A complex molecule that has both protein and sugars. Lectins are able to bind to the outside of a cell and cause biochemical changes in it. Lectins are made by both animals and plants. [NIH]

Lesion: An area of abnormal tissue change. [NIH]

Lethal: Deadly, fatal. [EU]

Leucocyte: All the white cells of the blood and their precursors (myeloid cell series, lymphoid cell series) but commonly used to indicate granulocytes exclusive of lymphocytes. [NIH]

Leucovorin: The active metabolite of folic acid. Leucovorin is used principally as its calcium salt as an antidote to folic acid antagonists which block the conversion of folic acid to folinic acid. [NIH]

Leukemia: Cancer of blood-forming tissue. [NIH]

Leukocytes: White blood cells. These include granular leukocytes (basophils, eosinophils, and neutrophils) as well as non-granular leukocytes (lymphocytes and monocytes). [NIH]

Library Services: Services offered to the library user. They include reference and circulation. [NIH]

Ligament: A band of fibrous tissue that connects bones or cartilages, serving to support and strengthen joints. [EU]

Lipid: Fat. [NIH]

Lipid Peroxidation: Peroxidase catalyzed oxidation of lipids using hydrogen peroxide as an electron acceptor. [NIH]

Lipopolysaccharide: Substance consisting of polysaccaride and lipid. [NIH]

Lipoprotein: Any of the lipid-protein complexes in which lipids are transported in the blood; lipoprotein particles consist of a spherical hydrophobic core of triglycerides or cholesterol esters surrounded by an amphipathic monolayer of phospholipids, cholesterol, and apolipoproteins; the four principal classes are high-density, low-density, and very-low-density lipoproteins and chylomicrons. [EU]

Liver: A large, glandular organ located in the upper abdomen. The liver cleanses the blood and aids in digestion by secreting bile. [NIH]

Liver cancer: A disease in which malignant (cancer) cells are found in the tissues of the liver. [NIH]

Liver metastases: Cancer that has spread from the original (primary) tumor to the liver. [NIH]

Localization: The process of determining or marking the location or site of a lesion or disease. May also refer to the process of keeping a lesion or disease in a specific location or site. [NIH]

Localized: Cancer which has not metastasized yet. [NIH]

Locally advanced cancer: Cancer that has spread only to nearby tissues or lymph nodes. [NIH]

Locomotion: Movement or the ability to move from one place or another. It can refer to humans, vertebrate or invertebrate animals, and microorganisms. [NIH]

Locoregional: The characteristic of a disease-producing organism to transfer itself, but typically to the same region of the body (a leg, the lungs, .) [EU]

Long-Term Care: Care over an extended period, usually for a chronic condition or disability, requiring periodic, intermittent, or continuous care. [NIH]

Loop: A wire usually of platinum bent at one end into a small loop (usually 4 mm inside diameter) and used in transferring microorganisms. [NIH]

Loss of Heterozygosity: The loss of one allele at a specific locus, caused by a deletion mutation; or loss of a chromosome from a chromosome pair. It is detected when heterozygous markers for a locus appear monomorphic because one of the alleles was deleted. When this occurs at a tumor suppressor gene locus where one of the alleles is already abnormal, it can result in neoplastic transformation. [NIH]

Low-density lipoprotein: Lipoprotein that contains most of the cholesterol in the blood. LDL carries cholesterol to the tissues of the body, including the arteries. A high level of LDL increases the risk of heart disease. LDL typically contains 60 to 70 percent of the total serum cholesterol and both are directly correlated with CHD risk. [NIH]

Lumen: The cavity or channel within a tube or tubular organ. [EU]

Luminol: 5-Amino-2,3-dihydro-1,4-phthalazinedione. Substance that emits light on oxidation. It is used in chemical determinations. [NIH]

Lupus: A form of cutaneous tuberculosis. It is seen predominantly in women and typically involves the nasal, buccal, and conjunctival mucosa. [NIH]

Lymph: The almost colorless fluid that travels through the lymphatic system and carries cells that help fight infection and disease. [NIH]

Lymph node: A rounded mass of lymphatic tissue that is surrounded by a capsule of connective tissue. Also known as a lymph gland. Lymph nodes are spread out along lymphatic vessels and contain many lymphocytes, which filter the lymphatic fluid (lymph). [NIH]

Lymphadenectomy: A surgical procedure in which the lymph nodes are removed and examined to see whether they contain cancer. Also called lymph node dissection. [NIH]

Lymphadenopathy: Disease or swelling of the lymph nodes. [NIH]

Lymphatic: The tissues and organs, including the bone marrow, spleen, thymus, and lymph nodes, that produce and store cells that fight infection and disease. [NIH]

Lymphatic system: The tissues and organs that produce, store, and carry white blood cells

that fight infection and other diseases. This system includes the bone marrow, spleen, thymus, lymph nodes and a network of thin tubes that carry lymph and white blood cells. These tubes branch, like blood vessels, into all the tissues of the body. [NIH]

Lymphocyte: A white blood cell. Lymphocytes have a number of roles in the immune system, including the production of antibodies and other substances that fight infection and diseases. [NIH]

Lymphocyte Subsets: A classification of lymphocytes based on structurally or functionally different populations of cells. [NIH]

Lymphoid: Referring to lymphocytes, a type of white blood cell. Also refers to tissue in which lymphocytes develop. [NIH]

Lymphokine: A soluble protein produced by some types of white blood cell that stimulates other white blood cells to kill foreign invaders. [NIH]

Lymphoma: A general term for various neoplastic diseases of the lymphoid tissue. [NIH]

Lymphoproliferative: Disorders characterized by proliferation of lymphoid tissue, general or unspecified. [NIH]

Lymphoproliferative Disorders: Disorders characterized by proliferation of lymphoid tissue, general or unspecified. [NIH]

Lysine: An essential amino acid. It is often added to animal feed. [NIH]

Lytic: 1. Pertaining to lysis or to a lysin. 2. Producing lysis. [EU]

Macrophage: A type of white blood cell that surrounds and kills microorganisms, removes dead cells, and stimulates the action of other immune system cells. [NIH]

Malabsorption: Impaired intestinal absorption of nutrients. [EU]

Malaria: A protozoan disease caused in humans by four species of the genus Plasmodium (P. falciparum (malaria, falciparum), P. vivax (malaria, vivax), P. ovale, and P. malariae) and transmitted by the bite of an infected female mosquito of the genus Anopheles. Malaria is endemic in parts of Asia, Africa, Central and South America, Oceania, and certain Caribbean islands. It is characterized by extreme exhaustion associated with paroxysms of high fever, sweating, shaking chills, and anemia. Malaria in animals is caused by other species of plasmodia. [NIH]

Malaria, Falciparum: Malaria caused by Plasmodium falciparum. This is the severest form of malaria and is associated with the highest levels of parasites in the blood. This disease is characterized by irregularly recurring febrile paroxysms that in extreme cases occur with acute cerebral, renal, or gastrointestinal manifestations. [NIH]

Malaria, Vivax: Malaria caused by Plasmodium vivax. This form of malaria is less severe than malaria, falciparum, but there is a higher probability for relapses to occur. Febrile paroxysms often occur every other day. [NIH]

Malignancy: A cancerous tumor that can invade and destroy nearby tissue and spread to other parts of the body. [NIH]

Malignant: Cancerous; a growth with a tendency to invade and destroy nearby tissue and spread to other parts of the body. [NIH]

Malignant tumor: A tumor capable of metastasizing. [NIH]

Malnutrition: A condition caused by not eating enough food or not eating a balanced diet. [NIH]

Mass Screening: Organized periodic procedures performed on large groups of people for the purpose of detecting disease. [NIH]

Meat: The edible portions of any animal used for food including domestic mammals (the major ones being cattle, swine, and sheep) along with poultry, fish, shellfish, and game. [NIH]

Mediate: Indirect; accomplished by the aid of an intervening medium. [EU]

Medicament: A medicinal substance or agent. [EU]

MEDLINE: An online database of MEDLARS, the computerized bibliographic Medical Literature Analysis and Retrieval System of the National Library of Medicine. [NIH]

Melanin: The substance that gives the skin its color. [NIH]

Melanocytes: Epidermal dendritic pigment cells which control long-term morphological color changes by alteration in their number or in the amount of pigment they produce and store in the pigment containing organelles called melanosomes. Melanophores are larger cells which do not exist in mammals. [NIH]

Melanoma: A form of skin cancer that arises in melanocytes, the cells that produce pigment. Melanoma usually begins in a mole. [NIH]

Membrane: A very thin layer of tissue that covers a surface. [NIH]

Membrane Proteins: Proteins which are found in membranes including cellular and intracellular membranes. They consist of two types, peripheral and integral proteins. They include most membrane-associated enzymes, antigenic proteins, transport proteins, and drug, hormone, and lectin receptors. [NIH]

Memory: Complex mental function having four distinct phases: (1) memorizing or learning, (2) retention, (3) recall, and (4) recognition. Clinically, it is usually subdivided into immediate, recent, and remote memory. [NIH]

Mental Disorders: Psychiatric illness or diseases manifested by breakdowns in the adaptational process expressed primarily as abnormalities of thought, feeling, and behavior producing either distress or impairment of function. [NIH]

Mental Health: The state wherein the person is well adjusted. [NIH]

Mercury: A silver metallic element that exists as a liquid at room temperature. It has the atomic symbol Hg (from hydrargyrum, liquid silver), atomic number 80, and atomic weight 200.59. Mercury is used in many industrial applications and its salts have been employed therapeutically as purgatives, antisyphilitics, disinfectants, and astringents. It can be absorbed through the skin and mucous membranes which leads to mercury poisoning. Because of its toxicity, the clinical use of mercury and mercurials is diminishing. [NIH]

Mesenchymal: Refers to cells that develop into connective tissue, blood vessels, and lymphatic tissue. [NIH]

Meta-Analysis: A quantitative method of combining the results of independent studies (usually drawn from the published literature) and synthesizing summaries and conclusions which may be used to evaluate therapeutic effectiveness, plan new studies, etc., with application chiefly in the areas of research and medicine. [NIH]

Metabolic disorder: A condition in which normal metabolic processes are disrupted, usually because of a missing enzyme. [NIH]

Metabolite: Any substance produced by metabolism or by a metabolic process. [EU]

Metaplasia: A condition in which there is a change of one adult cell type to another similar adult cell type. [NIH]

Metastasis: The spread of cancer from one part of the body to another. Tumors formed from cells that have spread are called "secondary tumors" and contain cells that are like those in the original (primary) tumor. The plural is metastases. [NIH]

Metastatic: Having to do with metastasis, which is the spread of cancer from one part of the body to another. [NIH]

Metastatic cancer: Cancer that has spread from the place in which it started to other parts of the body. [NIH]

Methionine: A sulfur containing essential amino acid that is important in many body functions. It is a chelating agent for heavy metals. [NIH]

Metronidazole: Antiprotozoal used in amebiasis, trichomoniasis, giardiasis, and as treponemacide in livestock. It has also been proposed as a radiation sensitizer for hypoxic cells. According to the Fourth Annual Report on Carcinogens (NTP 85-002, 1985, p133), this substance may reasonably be anticipated to be a carcinogen (Merck, 11th ed). [NIH]

MI: Myocardial infarction. Gross necrosis of the myocardium as a result of interruption of the blood supply to the area; it is almost always caused by atherosclerosis of the coronary arteries, upon which coronary thrombosis is usually superimposed. [NIH]

Microbe: An organism which cannot be observed with the naked eye; e. g. unicellular animals, lower algae, lower fungi, bacteria. [NIH]

Microorganism: An organism that can be seen only through a microscope. Microorganisms include bacteria, protozoa, algae, and fungi. Although viruses are not considered living organisms, they are sometimes classified as microorganisms. [NIH]

Micro-organism: An organism which cannot be observed with the naked eye; e. g. unicellular animals, lower algae, lower fungi, bacteria. [NIH]

Microscopy: The application of microscope magnification to the study of materials that cannot be properly seen by the unaided eye. [NIH]

Microtubules: Slender, cylindrical filaments found in the cytoskeleton of plant and animal cells. They are composed of the protein tubulin. [NIH]

Mitochondria: Parts of a cell where aerobic production (also known as cell respiration) takes place. [NIH]

Mitomycin: An antineoplastic antibiotic produced by Streptomyces caespitosus. It acts as a bi- or trifunctional alkylating agent causing cross-linking of DNA and inhibition of DNA synthesis. [NIH]

Mitosis: A method of indirect cell division by means of which the two daughter nuclei normally receive identical complements of the number of chromosomes of the somatic cells of the species. [NIH]

Mitotic: Cell resulting from mitosis. [NIH]

Mitotic inhibitors: Drugs that kill cancer cells by interfering with cell division (mitostis). [NIH]

Mitoxantrone: An anthracenedione-derived antineoplastic agent. [NIH]

Mobility: Capability of movement, of being moved, or of flowing freely. [EU]

Mode of Transmission: Hepatitis A [NIH]

Modification: A change in an organism, or in a process in an organism, that is acquired from its own activity or environment. [NIH]

Molecular: Of, pertaining to, or composed of molecules : a very small mass of matter. [EU]

Molecule: A chemical made up of two or more atoms. The atoms in a molecule can be the same (an oxygen molecule has two oxygen atoms) or different (a water molecule has two hydrogen atoms and one oxygen atom). Biological molecules, such as proteins and DNA, can be made up of many thousands of atoms. [NIH]

Monitor: An apparatus which automatically records such physiological signs as respiration, pulse, and blood pressure in an anesthetized patient or one undergoing surgical or other procedures. [NIH]

Monoclonal: An antibody produced by culturing a single type of cell. It therefore consists of a single species of immunoglobulin molecules. [NIH]

Monoclonal antibodies: Laboratory-produced substances that can locate and bind to cancer cells wherever they are in the body. Many monoclonal antibodies are used in cancer detection or therapy; each one recognizes a different protein on certain cancer cells. Monoclonal antibodies can be used alone, or they can be used to deliver drugs, toxins, or radioactive material directly to a tumor. [NIH]

Monocytes: Large, phagocytic mononuclear leukocytes produced in the vertebrate bone marrow and released into the blood; contain a large, oval or somewhat indented nucleus surrounded by voluminous cytoplasm and numerous organelles. [NIH]

Mononuclear: A cell with one nucleus. [NIH]

Monophosphate: So called second messenger for neurotransmitters and hormones. [NIH]

Motion Sickness: Sickness caused by motion, as sea sickness, train sickness, car sickness, and air sickness. [NIH]

Motor nerve: An efferent nerve conveying an impulse that excites muscular contraction. [NIH]

Mucins: A secretion containing mucopolysaccharides and protein that is the chief constituent of mucus. [NIH]

Mucosa: A mucous membrane, or tunica mucosa. [EU]

Mucus: The viscous secretion of mucous membranes. It contains mucin, white blood cells, water, inorganic salts, and exfoliated cells. [NIH]

Multidrug resistance: Adaptation of tumor cells to anticancer drugs in ways that make the drugs less effective. [NIH]

Muscle Fibers: Large single cells, either cylindrical or prismatic in shape, that form the basic unit of muscle tissue. They consist of a soft contractile substance enclosed in a tubular sheath. [NIH]

Muscular Atrophy: Derangement in size and number of muscle fibers occurring with aging, reduction in blood supply, or following immobilization, prolonged weightlessness, malnutrition, and particularly in denervation. [NIH]

Muscular Dystrophies: A general term for a group of inherited disorders which are characterized by progressive degeneration of skeletal muscles. [NIH]

Mutagen: Any agent, such as X-rays, gamma rays, mustard gas, TCDD, that can cause abnormal mutation in living cells; having the power to cause mutations. [NIH]

Mutagenesis: Process of generating genetic mutations. It may occur spontaneously or be induced by mutagens. [NIH]

Mutagenic: Inducing genetic mutation. [EU]

Myelodysplastic syndrome: Disease in which the bone marrow does not function normally. Also called preleukemia or smoldering leukemia. [NIH]

Myeloma: Cancer that arises in plasma cells, a type of white blood cell. [NIH]

Myocardial Ischemia: A disorder of cardiac function caused by insufficient blood flow to the muscle tissue of the heart. The decreased blood flow may be due to narrowing of the coronary arteries (coronary arteriosclerosis), to obstruction by a thrombus (coronary

thrombosis), or less commonly, to diffuse narrowing of arterioles and other small vessels within the heart. Severe interruption of the blood supply to the myocardial tissue may result in necrosis of cardiac muscle (myocardial infarction). [NIH]

Myocardium: The muscle tissue of the heart composed of striated, involuntary muscle known as cardiac muscle. [NIH]

Myotonic Dystrophy: A condition presenting muscle weakness and wasting which may be progressive. [NIH]

Natural killer cells: NK cells. A type of white blood cell that contains granules with enzymes that can kill tumor cells or microbial cells. Also called large granular lymphocytes (LGL). [NIH]

Nausea: An unpleasant sensation in the stomach usually accompanied by the urge to vomit. Common causes are early pregnancy, sea and motion sickness, emotional stress, intense pain, food poisoning, and various enteroviruses. [NIH]

NCI: National Cancer Institute. NCI, part of the National Institutes of Health of the United States Department of Health and Human Services, is the federal government's principal agency for cancer research. NCI conducts, coordinates, and funds cancer research, training, health information dissemination, and other programs with respect to the cause, diagnosis, prevention, and treatment of cancer. Access the NCI Web site at http://cancer.gov. [NIH]

Necrosis: A pathological process caused by the progressive degradative action of enzymes that is generally associated with severe cellular trauma. It is characterized by mitochondrial swelling, nuclear flocculation, uncontrolled cell lysis, and ultimately cell death. [NIH]

Need: A state of tension or dissatisfaction felt by an individual that impels him to action toward a goal he believes will satisfy the impulse. [NIH]

Neoplasia: Abnormal and uncontrolled cell growth. [NIH]

Neoplasm: A new growth of benign or malignant tissue. [NIH]

Neoplastic: Pertaining to or like a neoplasm (= any new and abnormal growth); pertaining to neoplasia (= the formation of a neoplasm). [EU]

Nephropathy: Disease of the kidneys. [EU]

Nerve: A cordlike structure of nervous tissue that connects parts of the nervous system with other tissues of the body and conveys nervous impulses to, or away from, these tissues. [NIH]

Nervous System: The entire nerve apparatus composed of the brain, spinal cord, nerves and ganglia. [NIH]

Networks: Pertaining to a nerve or to the nerves, a meshlike structure of interlocking fibers or strands. [NIH]

Neural: 1. Pertaining to a nerve or to the nerves. 2. Situated in the region of the spinal axis, as the neutral arch. [EU]

Neuroblastoma: Cancer that arises in immature nerve cells and affects mostly infants and children. [NIH]

Neuroectodermal Tumors: Malignant neoplasms arising in the neuroectoderm, the portion of the ectoderm of the early embryo that gives rise to the central and peripheral nervous systems, including some glial cells. [NIH]

Neurotic: 1. Pertaining to or characterized by neurosis. 2. A person affected with a neurosis. [EU]

Neutrons: Electrically neutral elementary particles found in all atomic nuclei except light hydrogen; the mass is equal to that of the proton and electron combined and they are unstable when isolated from the nucleus, undergoing beta decay. Slow, thermal, epithermal,

and fast neutrons refer to the energy levels with which the neutrons are ejected from heavier nuclei during their decay. [NIH]

Neutrophils: Granular leukocytes having a nucleus with three to five lobes connected by slender threads of chromatin, and cytoplasm containing fine inconspicuous granules and stainable by neutral dyes. [NIH]

Nickel: A trace element with the atomic symbol Ni, atomic number 28, and atomic weight 58.69. It is a cofactor of the enzyme urease. [NIH]

Nitrates: Inorganic or organic salts and esters of nitric acid. These compounds contain the NO3- radical. [NIH]

Nitric acid: A toxic, corrosive, colorless liquid used to make fertilizers, dyes, explosives, and other chemicals. [NIH]

Nitric Oxide: A free radical gas produced endogenously by a variety of mammalian cells. It is synthesized from arginine by a complex reaction, catalyzed by nitric oxide synthase. Nitric oxide is endothelium-derived relaxing factor. It is released by the vascular endothelium and mediates the relaxation induced by some vasodilators such as acetylcholine and bradykinin. It also inhibits platelet aggregation, induces disaggregation of aggregated platelets, and inhibits platelet adhesion to the vascular endothelium. Nitric oxide activates cytosolic guanylate cyclase and thus elevates intracellular levels of cyclic GMP. [NIH]

Nitrogen: An element with the atomic symbol N, atomic number 7, and atomic weight 14. Nitrogen exists as a diatomic gas and makes up about 78% of the earth's atmosphere by volume. It is a constituent of proteins and nucleic acids and found in all living cells. [NIH]

Non-small cell lung cancer: A group of lung cancers that includes squamous cell carcinoma, adenocarcinoma, and large cell carcinoma. [NIH]

Nuclear: A test of the structure, blood flow, and function of the kidneys. The doctor injects a mildly radioactive solution into an arm vein and uses x-rays to monitor its progress through the kidneys. [NIH]

Nuclei: A body of specialized protoplasm found in nearly all cells and containing the chromosomes. [NIH]

Nucleic acid: Either of two types of macromolecule (DNA or RNA) formed by polymerization of nucleotides. Nucleic acids are found in all living cells and contain the information (genetic code) for the transfer of genetic information from one generation to the next. [NIH]

Nucleic Acid Hybridization: The process whereby two single-stranded polynucleotides form a double-stranded molecule, with hydrogen bonding between the complementary bases in the two strains. [NIH]

Nucleotidases: A class of enzymes that catalyze the conversion of a nucleotide and water to a nucleoside and orthophosphate. EC 3.1.3.-. [NIH]

Nucleus: A body of specialized protoplasm found in nearly all cells and containing the chromosomes. [NIH]

Nursing Assessment: Evaluation of the nature and extent of nursing problems presented by a patient for the purpose of patient care planning. [NIH]

Nursing Diagnosis: Conclusions derived from the nursing assessment that establish a health status profile for the patient and from which nursing interventions may be ordered. [NIH]

Nutritional Support: The administration of nutrients for assimilation and utilization by a patient by means other than normal eating. It does not include fluid therapy which

normalizes body fluids to restore water-electrolyte balance. [NIH]

Occult: Obscure; concealed from observation, difficult to understand. [EU]

Occult Blood: Chemical, spectroscopic, or microscopic detection of extremely small amounts of blood. [NIH]

Oculomotor: Cranial nerve III. It originate from the lower ventral surface of the midbrain and is classified as a motor nerve. [NIH]

Odds Ratio: The ratio of two odds. The exposure-odds ratio for case control data is the ratio of the odds in favor of exposure among cases to the odds in favor of exposure among noncases. The disease-odds ratio for a cohort or cross section is the ratio of the odds in favor of disease among the exposed to the odds in favor of disease among the unexposed. The prevalence-odds ratio refers to an odds ratio derived cross-sectionally from studies of prevalent cases. [NIH]

Oesophagitis: Inflammation of the esophagus. [EU]

Ointments: Semisolid preparations used topically for protective emollient effects or as a vehicle for local administration of medications. Ointment bases are various mixtures of fats, waxes, animal and plant oils and solid and liquid hydrocarbons. [NIH]

Olfaction: Function of the olfactory apparatus to perceive and discriminate between the molecules that reach it, in gas form from an external environment, directly or indirectly via the nose. [NIH]

Oliguria: Clinical manifestation of the urinary system consisting of a decrease in the amount of urine secreted. [NIH]

Oncogene: A gene that normally directs cell growth. If altered, an oncogene can promote or allow the uncontrolled growth of cancer. Alterations can be inherited or caused by an environmental exposure to carcinogens. [NIH]

Operon: The genetic unit consisting of a feedback system under the control of an operator gene, in which a structural gene transcribes its message in the form of mRNA upon blockade of a repressor produced by a regulator gene. Included here is the attenuator site of bacterial operons where transcription termination is regulated. [NIH]

Ovarian epithelial cancer: Cancer that occurs in the cells lining the ovaries. [NIH]

Ovaries: The pair of female reproductive glands in which the ova, or eggs, are formed. The ovaries are located in the pelvis, one on each side of the uterus. [NIH]

Overdosage: 1. The administration of an excessive dose. 2. The condition resulting from an excessive dose. [EU]

Overexpress: An excess of a particular protein on the surface of a cell. [NIH]

Oxaliplatin: An anticancer drug that belongs to the family of drugs called platinum compounds. [NIH]

Oxidation: The act of oxidizing or state of being oxidized. Chemically it consists in the increase of positive charges on an atom or the loss of negative charges. Most biological oxidations are accomplished by the removal of a pair of hydrogen atoms (dehydrogenation) from a molecule. Such oxidations must be accompanied by reduction of an acceptor molecule. Univalent o. indicates loss of one electron; divalent o., the loss of two electrons. [EU]

Oxidative Stress: A disturbance in the prooxidant-antioxidant balance in favor of the former, leading to potential damage. Indicators of oxidative stress include damaged DNA bases, protein oxidation products, and lipid peroxidation products (Sies, Oxidative Stress, 1991, pxv-xvi). [NIH]

Oxides: Binary compounds of oxygen containing the anion O(2-). The anion combines with metals to form alkaline oxides and non-metals to form acidic oxides. [NIH]

P53 gene: A tumor suppressor gene that normally inhibits the growth of tumors. This gene is altered in many types of cancer. [NIH]

Paclitaxel: Antineoplastic agent isolated from the bark of the Pacific yew tree, Taxus brevifolia. Paclitaxel stabilizes microtubules in their polymerized form and thus mimics the action of the proto-oncogene proteins c-mos. [NIH]

Palate: The structure that forms the roof of the mouth. It consists of the anterior hard palate and the posterior soft palate. [NIH]

Palliative: 1. Affording relief, but not cure. 2. An alleviating medicine. [EU]

Pancreas: A mixed exocrine and endocrine gland situated transversely across the posterior abdominal wall in the epigastric and hypochondriac regions. The endocrine portion is comprised of the Islets of Langerhans, while the exocrine portion is a compound acinar gland that secretes digestive enzymes. [NIH]

Pancreatic: Having to do with the pancreas. [NIH]

Pancreatic cancer: Cancer of the pancreas, a salivary gland of the abdomen. [NIH]

Paraffin: A mixture of solid hydrocarbons obtained from petroleum. It has a wide range of uses including as a stiffening agent in ointments, as a lubricant, and as a topical anti-inflammatory. It is also commonly used as an embedding material in histology. [NIH]

Paralysis: Loss of ability to move all or part of the body. [NIH]

Parasite: An animal or a plant that lives on or in an organism of another species and gets at least some of its nutrition from that other organism. [NIH]

Parasitic: Having to do with or being a parasite. A parasite is an animal or a plant that lives on or in an organism of another species and gets at least some of its nutrients from it. [NIH]

Parenteral: Not through the alimentary canal but rather by injection through some other route, as subcutaneous, intramuscular, intraorbital, intracapsular, intraspinal, intrasternal, intravenous, etc. [EU]

Parenteral Nutrition: The administering of nutrients for assimilation and utilization by a patient who cannot maintain adequate nutrition by enteral feeding alone. Nutrients are administered by a route other than the alimentary canal (e.g., intravenously, subcutaneously). [NIH]

Parietal: 1. Of or pertaining to the walls of a cavity. 2. Pertaining to or located near the parietal bone, as the parietal lobe. [EU]

Parietal Cells: Cells in the stomach wall that make hydrochloric acid. [NIH]

Parietal Lobe: Upper central part of the cerebral hemisphere. [NIH]

Paroxysmal: Recurring in paroxysms (= spasms or seizures). [EU]

Particle: A tiny mass of material. [EU]

Pathogen: Any disease-producing microorganism. [EU]

Pathogenesis: The cellular events and reactions that occur in the development of disease. [NIH]

Pathologic: 1. Indicative of or caused by a morbid condition. 2. Pertaining to pathology (= branch of medicine that treats the essential nature of the disease, especially the structural and functional changes in tissues and organs of the body caused by the disease). [EU]

Pathologic Processes: The abnormal mechanisms and forms involved in the dysfunctions of tissues and organs. [NIH]

Patient Education: The teaching or training of patients concerning their own health needs. [NIH]

PDQ: Physician Data Query. PDQ is an online database developed and maintained by the National Cancer Institute. Designed to make the most current, credible, and accurate cancer information available to health professionals and the public, PDQ contains peer-reviewed summaries on cancer treatment, screening, prevention, genetics, and supportive care; a registry of cancer clinical trials from around the world; and directories of physicians, professionals who provide genetics services, and organizations that provide cancer care. Most of this information is available on the CancerNet Web site, and more specific information about PDQ can be found at http://cancernet.nci.nih.gov/pdq.html. [NIH]

Pelvic: Pertaining to the pelvis. [EU]

Pepsin: An enzyme made in the stomach that breaks down proteins. [NIH]

Pepsin A: Formed from pig pepsinogen by cleavage of one peptide bond. The enzyme is a single polypeptide chain and is inhibited by methyl 2-diaazoacetamidohexanoate. It cleaves peptides preferentially at the carbonyl linkages of phenylalanine or leucine and acts as the principal digestive enzyme of gastric juice. [NIH]

Peptic: Pertaining to pepsin or to digestion; related to the action of gastric juices. [EU]

Peptic Ulcer: Ulcer that occurs in those portions of the alimentary tract which come into contact with gastric juice containing pepsin and acid. It occurs when the amount of acid and pepsin is sufficient to overcome the gastric mucosal barrier. [NIH]

Peptide: Any compound consisting of two or more amino acids, the building blocks of proteins. Peptides are combined to make proteins. [NIH]

Peptide Chain Elongation: The process whereby an amino acid is joined through a substituted amide linkage to a chain of peptides. [NIH]

Peptide Hydrolases: A subclass of enzymes from the hydrolase class that catalyze the hydrolysis of peptide bonds. Exopeptidases and endopeptidases make up the sub-subclasses for this group. EC 3.4. [NIH]

Peptide T: N-(N-(N(2)-(N-(N-(N-(N-D-Alanyl L-seryl)-L-threonyl)-L-threonyl) L-threonyl)-L-asparaginyl)-L-tyrosyl) L-threonine. Octapeptide sharing sequence homology with HIV envelope protein gp120. It is potentially useful as antiviral agent in AIDS therapy. The core pentapeptide sequence, TTNYT, consisting of amino acids 4-8 in peptide T, is the HIV envelope sequence required for attachment to the CD4 receptor. [NIH]

Perforation: 1. The act of boring or piercing through a part. 2. A hole made through a part or substance. [EU]

Perfusion: Bathing an organ or tissue with a fluid. In regional perfusion, a specific area of the body (usually an arm or a leg) receives high doses of anticancer drugs through a blood vessel. Such a procedure is performed to treat cancer that has not spread. [NIH]

Periodontitis: Inflammation of the periodontal membrane; also called periodontitis simplex. [NIH]

Peripheral blood: Blood circulating throughout the body. [NIH]

Peripheral Nervous System: The nervous system outside of the brain and spinal cord. The peripheral nervous system has autonomic and somatic divisions. The autonomic nervous system includes the enteric, parasympathetic, and sympathetic subdivisions. The somatic nervous system includes the cranial and spinal nerves and their ganglia and the peripheral sensory receptors. [NIH]

Peritoneal: Having to do with the peritoneum (the tissue that lines the abdominal wall and covers most of the organs in the abdomen). [NIH]

Peritoneal Cavity: The space enclosed by the peritoneum. It is divided into two portions, the greater sac and the lesser sac or omental bursa, which lies behind the stomach. The two sacs are connected by the foramen of Winslow, or epiploic foramen. [NIH]

Peritoneum: Endothelial lining of the abdominal cavity, the parietal peritoneum covering the inside of the abdominal wall and the visceral peritoneum covering the bowel, the mesentery, and certain of the organs. The portion that covers the bowel becomes the serosal layer of the bowel wall. [NIH]

Peritonitis: Inflammation of the peritoneum; a condition marked by exudations in the peritoneum of serum, fibrin, cells, and pus. It is attended by abdominal pain and tenderness, constipation, vomiting, and moderate fever. [EU]

Pernicious: Tending to a fatal issue. [EU]

Pernicious anemia: A type of anemia (low red blood cell count) caused by the body's inability to absorb vitamin B12. [NIH]

Peroxidase: A hemeprotein from leukocytes. Deficiency of this enzyme leads to a hereditary disorder coupled with disseminated moniliasis. It catalyzes the conversion of a donor and peroxide to an oxidized donor and water. EC 1.11.1.7. [NIH]

Peroxide: Chemical compound which contains an atom group with two oxygen atoms tied to each other. [NIH]

Petrolatum: A colloidal system of semisolid hydrocarbons obtained from petroleum. It is used as an ointment base, topical protectant, and lubricant. [NIH]

Petroleum: Naturally occurring complex liquid hydrocarbons which, after distillation, yield combustible fuels, petrochemicals, and lubricants. [NIH]

Pharmaceutical Preparations: Drugs intended for human or veterinary use, presented in their finished dosage form. Included here are materials used in the preparation and/or formulation of the finished dosage form. [NIH]

Pharmacokinetic: The mathematical analysis of the time courses of absorption, distribution, and elimination of drugs. [NIH]

Pharmacologic: Pertaining to pharmacology or to the properties and reactions of drugs. [EU]

Pharmacotherapy: A regimen of using appetite suppressant medications to manage obesity by decreasing appetite or increasing the feeling of satiety. These medications decrease appetite by increasing serotonin or catecholamine—two brain chemicals that affect mood and appetite. [NIH]

Phenolphthalein: An acid-base indicator which is colorless in acid solution, but turns pink to red as the solution becomes alkaline. It is used medicinally as a cathartic. [NIH]

Phenotype: The outward appearance of the individual. It is the product of interactions between genes and between the genotype and the environment. This includes the killer phenotype, characteristic of yeasts. [NIH]

Phenylalanine: An aromatic amino acid that is essential in the animal diet. It is a precursor of melanin, dopamine, noradrenalin, and thyroxine. [NIH]

Phospholipases: A class of enzymes that catalyze the hydrolysis of phosphoglycerides or glycerophosphatidates. EC 3.1.-. [NIH]

Phospholipids: Lipids containing one or more phosphate groups, particularly those derived from either glycerol (phosphoglycerides; glycerophospholipids) or sphingosine (sphingolipids). They are polar lipids that are of great importance for the structure and function of cell membranes and are the most abundant of membrane lipids, although not stored in large amounts in the system. [NIH]

Phosphoric Monoester Hydrolases: A group of hydrolases which catalyze the hydrolysis of monophosphoric esters with the production of one mole of orthophosphate. EC 3.1.3. [NIH]

Phosphorus: A non-metallic element that is found in the blood, muscles, nevers, bones, and teeth, and is a component of adenosine triphosphate (ATP; the primary energy source for the body's cells.) [NIH]

Phosphorylation: The introduction of a phosphoryl group into a compound through the formation of an ester bond between the compound and a phosphorus moiety. [NIH]

Photodynamic therapy: Treatment with drugs that become active when exposed to light. These drugs kill cancer cells. [NIH]

Photosensitivity: An abnormal cutaneous response involving the interaction between photosensitizing substances and sunlight or filtered or artificial light at wavelengths of 280-400 mm. There are two main types : photoallergy and photoxicity. [EU]

Physiologic: Having to do with the functions of the body. When used in the phrase "physiologic age," it refers to an age assigned by general health, as opposed to calendar age. [NIH]

Physiology: The science that deals with the life processes and functions of organismus, their cells, tissues, and organs. [NIH]

Pigment: A substance that gives color to tissue. Pigments are responsible for the color of skin, eyes, and hair. [NIH]

Pilot study: The initial study examining a new method or treatment. [NIH]

Plants: Multicellular, eukaryotic life forms of the kingdom Plantae. They are characterized by a mainly photosynthetic mode of nutrition; essentially unlimited growth at localized regions of cell divisions (meristems); cellulose within cells providing rigidity; the absence of organs of locomotion; absense of nervous and sensory systems; and an alteration of haploid and diploid generations. [NIH]

Plasma: The clear, yellowish, fluid part of the blood that carries the blood cells. The proteins that form blood clots are in plasma. [NIH]

Plasma cells: A type of white blood cell that produces antibodies. [NIH]

Plasmid: An autonomously replicating, extra-chromosomal DNA molecule found in many bacteria. Plasmids are widely used as carriers of cloned genes. [NIH]

Plasmin: A product of the lysis of plasminogen (profibrinolysin) by plasminogen activators. It is composed of two polypeptide chains, light (B) and heavy (A), with a molecular weight of 75,000. It is the major proteolytic enzyme involved in blood clot retraction or the lysis of fibrin and quickly inactivated by antiplasmins. EC 3.4.21.7. [NIH]

Plasminogen: Precursor of fibrinolysin (plasmin). It is a single-chain beta-globulin of molecular weight 80-90,000 found mostly in association with fibrinogen in plasma; plasminogen activators change it to fibrinolysin. It is used in wound debriding and has been investigated as a thrombolytic agent. [NIH]

Plasminogen Activators: A heterogeneous group of proteolytic enzymes that convert plasminogen to plasmin. They are concentrated in the lysosomes of most cells and in the vascular endothelium, particularly in the vessels of the microcirculation. EC 3.4.21.-. [NIH]

Platelet Activation: A series of progressive, overlapping events triggered by exposure of the platelets to subendothelial tissue. These events include shape change, adhesiveness, aggregation, and release reactions. When carried through to completion, these events lead to the formation of a stable hemostatic plug. [NIH]

Platelet Aggregation: The attachment of platelets to one another. This clumping together

can be induced by a number of agents (e.g., thrombin, collagen) and is part of the mechanism leading to the formation of a thrombus. [NIH]

Platelet Factor 4: A high-molecular-weight proteoglycan-platelet factor complex which is released from blood platelets by thrombin. It acts as a mediator in the heparin-neutralizing capacity of the blood and plays a role in platelet aggregation. At high ionic strength (I=0.75), the complex dissociates into the active component (molecular weight 29,000) and the proteoglycan carrier (chondroitin 4-sulfate, molecular weight 350,000). The molecule exists in the form of a dimer consisting of 8 moles of platelet factor 4 and 2 moles of proteoglycan. [NIH]

Platelets: A type of blood cell that helps prevent bleeding by causing blood clots to form. Also called thrombocytes. [NIH]

Platinum: Platinum. A heavy, soft, whitish metal, resembling tin, atomic number 78, atomic weight 195.09, symbol Pt. (From Dorland, 28th ed) It is used in manufacturing equipment for laboratory and industrial use. It occurs as a black powder (platinum black) and as a spongy substance (spongy platinum) and may have been known in Pliny's time as "alutiae". [NIH]

Platinum Compounds: Inorganic compounds which contain platinum as the central atom. [NIH]

Pleura: The thin serous membrane enveloping the lungs and lining the thoracic cavity. [NIH]

Pleurisy: Inflammation of the pleura, with exudation into its cavity and upon its surface. It may occur as either an acute or a chronic process. In acute pleurisy the pleura becomes reddened, then covered with an exudate of lymph, fibrin, and cellular elements (the dry stage); the disease may progress to the second stage, in which a copious exudation of serum occurs (stage of liquid effusion). The inflamed surfaces of the pleura tend to become united by adhesions, which are usually permanent. The symptoms are a stitch in the side, a chill, followed by fever and a dry cough. As effusion occurs there is an onset of dyspnea and a diminution of pain. The patient lies on the affected side. [EU]

Ploidy: The number of sets of chromosomes in a cell or an organism. For example, haploid means one set and diploid means two sets. [NIH]

Podophyllotoxin: The main active constituent of the resin from the roots of may apple or mandrake (Podophyllum peltatum and P. emodi). It is a potent spindle poison, toxic if taken internally, and has been used as a cathartic. It is very irritating to skin and mucous membranes, has keratolytic actions, has been used to treat warts and keratoses, and may have antineoplastic properties, as do some of its congeners and derivatives. [NIH]

Point Mutation: A mutation caused by the substitution of one nucleotide for another. This results in the DNA molecule having a change in a single base pair. [NIH]

Poison Control Centers: Facilities which provide information concerning poisons and treatment of poisoning in emergencies. [NIH]

Poisoning: A condition or physical state produced by the ingestion, injection or inhalation of, or exposure to a deleterious agent. [NIH]

Polycystic: An inherited disorder characterized by many grape-like clusters of fluid-filled cysts that make both kidneys larger over time. These cysts take over and destroy working kidney tissue. PKD may cause chronic renal failure and end-stage renal disease. [NIH]

Polymerase: An enzyme which catalyses the synthesis of DNA using a single DNA strand as a template. The polymerase copies the template in the 5'-3'direction provided that sufficient quantities of free nucleotides, dATP and dTTP are present. [NIH]

Polymers: Compounds formed by the joining of smaller, usually repeating, units linked by covalent bonds. These compounds often form large macromolecules (e.g., polypeptides,

proteins, plastics). [NIH]

Polymorphic: Occurring in several or many forms; appearing in different forms at different stages of development. [EU]

Polymorphism: The occurrence together of two or more distinct forms in the same population. [NIH]

Polypeptide: A peptide which on hydrolysis yields more than two amino acids; called tripeptides, tetrapeptides, etc. according to the number of amino acids contained. [EU]

Polyphosphates: Linear polymers in which orthophosphate residues are linked with energy-rich phosphoanhydride bonds. They are found in plants, animals, and microorganisms. [NIH]

Polyposis: The development of numerous polyps (growths that protrude from a mucous membrane). [NIH]

Polysaccharide: A type of carbohydrate. It contains sugar molecules that are linked together chemically. [NIH]

Posterior: Situated in back of, or in the back part of, or affecting the back or dorsal surface of the body. In lower animals, it refers to the caudal end of the body. [EU]

Postoperative: After surgery. [NIH]

Postoperative Complications: Pathologic processes that affect patients after a surgical procedure. They may or may not be related to the disease for which the surgery was done, and they may or may not be direct results of the surgery. [NIH]

Postsynaptic: Nerve potential generated by an inhibitory hyperpolarizing stimulation. [NIH]

Potassium: An element that is in the alkali group of metals. It has an atomic symbol K, atomic number 19, and atomic weight 39.10. It is the chief cation in the intracellular fluid of muscle and other cells. Potassium ion is a strong electrolyte and it plays a significant role in the regulation of fluid volume and maintenance of the water-electrolyte balance. [NIH]

Potentiates: A degree of synergism which causes the exposure of the organism to a harmful substance to worsen a disease already contracted. [NIH]

Potentiation: An overall effect of two drugs taken together which is greater than the sum of the effects of each drug taken alone. [NIH]

Practice Guidelines: Directions or principles presenting current or future rules of policy for the health care practitioner to assist him in patient care decisions regarding diagnosis, therapy, or related clinical circumstances. The guidelines may be developed by government agencies at any level, institutions, professional societies, governing boards, or by the convening of expert panels. The guidelines form a basis for the evaluation of all aspects of health care and delivery. [NIH]

Precancerous: A term used to describe a condition that may (or is likely to) become cancer. Also called premalignant. [NIH]

Preclinical: Before a disease becomes clinically recognizable. [EU]

Precursor: Something that precedes. In biological processes, a substance from which another, usually more active or mature substance is formed. In clinical medicine, a sign or symptom that heralds another. [EU]

Predisposition: A latent susceptibility to disease which may be activated under certain conditions, as by stress. [EU]

Preleukemia: Conditions in which the abnormalities in the peripheral blood or bone marrow represent the early manifestations of acute leukemia, but in which the changes are not of sufficient magnitude or specificity to permit a diagnosis of acute leukemia by the

usual clinical criteria. [NIH]

Premalignant: A term used to describe a condition that may (or is likely to) become cancer. Also called precancerous. [NIH]

Prevalence: The total number of cases of a given disease in a specified population at a designated time. It is differentiated from incidence, which refers to the number of new cases in the population at a given time. [NIH]

Primary Prevention: Prevention of disease or mental disorders in susceptible individuals or populations through promotion of health, including mental health, and specific protection, as in immunization, as distinguished from the prevention of complications or after-effects of existing disease. [NIH]

Primary tumor: The original tumor. [NIH]

Probe: An instrument used in exploring cavities, or in the detection and dilatation of strictures, or in demonstrating the potency of channels; an elongated instrument for exploring or sounding body cavities. [NIH]

Prognostic factor: A situation or condition, or a characteristic of a patient, that can be used to estimate the chance of recovery from a disease, or the chance of the disease recurring (coming back). [NIH]

Progression: Increase in the size of a tumor or spread of cancer in the body. [NIH]

Progressive: Advancing; going forward; going from bad to worse; increasing in scope or severity. [EU]

Projection: A defense mechanism, operating unconsciously, whereby that which is emotionally unacceptable in the self is rejected and attributed (projected) to others. [NIH]

Promoter: A chemical substance that increases the activity of a carcinogenic process. [NIH]

Promotor: In an operon, a nucleotide sequence located at the operator end which contains all the signals for the correct initiation of genetic transcription by the RNA polymerase holoenzyme and determines the maximal rate of RNA synthesis. [NIH]

Prophylaxis: An attempt to prevent disease. [NIH]

Proportional: Being in proportion : corresponding in size, degree, or intensity, having the same or a constant ratio; of, relating to, or used in determining proportions. [EU]

Prospective Studies: Observation of a population for a sufficient number of persons over a sufficient number of years to generate incidence or mortality rates subsequent to the selection of the study group. [NIH]

Prospective study: An epidemiologic study in which a group of individuals (a cohort), all free of a particular disease and varying in their exposure to a possible risk factor, is followed over a specific amount of time to determine the incidence rates of the disease in the exposed and unexposed groups. [NIH]

Prostate: A gland in males that surrounds the neck of the bladder and the urethra. It secretes a substance that liquifies coagulated semen. It is situated in the pelvic cavity behind the lower part of the pubic symphysis, above the deep layer of the triangular ligament, and rests upon the rectum. [NIH]

Prostate gland: A gland in the male reproductive system just below the bladder. It surrounds part of the urethra, the canal that empties the bladder, and produces a fluid that forms part of semen. [NIH]

Prostatic Hyperplasia: Enlargement or overgrowth of the prostate gland as a result of an increase in the number of its constituent cells. [NIH]

Protein Binding: The process in which substances, either endogenous or exogenous, bind to

proteins, peptides, enzymes, protein precursors, or allied compounds. Specific protein-binding measures are often used as assays in diagnostic assessments. [NIH]

Protein C: A vitamin-K dependent zymogen present in the blood, which, upon activation by thrombin and thrombomodulin exerts anticoagulant properties by inactivating factors Va and VIIIa at the rate-limiting steps of thrombin formation. [NIH]

Protein Conformation: The characteristic 3-dimensional shape of a protein, including the secondary, supersecondary (motifs), tertiary (domains) and quaternary structure of the peptide chain. Quaternary protein structure describes the conformation assumed by multimeric proteins (aggregates of more than one polypeptide chain). [NIH]

Protein S: The vitamin K-dependent cofactor of activated protein C. Together with protein C, it inhibits the action of factors VIIIa and Va. A deficiency in protein S can lead to recurrent venous and arterial thrombosis. [NIH]

Proteins: Polymers of amino acids linked by peptide bonds. The specific sequence of amino acids determines the shape and function of the protein. [NIH]

Proteolytic: 1. Pertaining to, characterized by, or promoting proteolysis. 2. An enzyme that promotes proteolysis (= the splitting of proteins by hydrolysis of the peptide bonds with formation of smaller polypeptides). [EU]

Protocol: The detailed plan for a clinical trial that states the trial's rationale, purpose, drug or vaccine dosages, length of study, routes of administration, who may participate, and other aspects of trial design. [NIH]

Proton Pump: Integral membrane proteins that transport protons across a membrane against a concentration gradient. This transport is driven by hydrolysis of ATP by H(+)-transporting ATP synthase. [NIH]

Proton Pump Inhibitors: Medicines that stop the stomach's acid pump. Examples are omeprazole (oh-MEH-prah-zol) (Prilosec) and lansoprazole (lan-SOH-prah-zol) (Prevacid). [NIH]

Protons: Stable elementary particles having the smallest known positive charge, found in the nuclei of all elements. The proton mass is less than that of a neutron. A proton is the nucleus of the light hydrogen atom, i.e., the hydrogen ion. [NIH]

Proto-Oncogene Proteins: Products of proto-oncogenes. Normally they do not have oncogenic or transforming properties, but are involved in the regulation or differentiation of cell growth. They often have protein kinase activity. [NIH]

Proto-Oncogene Proteins c-mos: Cellular proteins encoded by the c-mos genes. They function in the cell cycle to maintain maturation promoting factor in the active state and have protein-serine/threonine kinase activity. Oncogenic transformation can take place when c-mos proteins are expressed at the wrong time. [NIH]

Protozoa: A subkingdom consisting of unicellular organisms that are the simplest in the animal kingdom. Most are free living. They range in size from submicroscopic to macroscopic. Protozoa are divided into seven phyla: Sarcomastigophora, Labyrinthomorpha, Apicomplexa, Microspora, Ascetospora, Myxozoa, and Ciliophora. [NIH]

Proximal: Nearest; closer to any point of reference; opposed to distal. [EU]

Psoriasis: A common genetically determined, chronic, inflammatory skin disease characterized by rounded erythematous, dry, scaling patches. The lesions have a predilection for nails, scalp, genitalia, extensor surfaces, and the lumbosacral region. Accelerated epidermopoiesis is considered to be the fundamental pathologic feature in psoriasis. [NIH]

Public Health: Branch of medicine concerned with the prevention and control of disease

and disability, and the promotion of physical and mental health of the population on the international, national, state, or municipal level. [NIH]

Public Policy: A course or method of action selected, usually by a government, from among alternatives to guide and determine present and future decisions. [NIH]

Publishing: "The business or profession of the commercial production and issuance of literature" (Webster's 3d). It includes the publisher, publication processes, editing and editors. Production may be by conventional printing methods or by electronic publishing. [NIH]

Pulmonary: Relating to the lungs. [NIH]

Pulmonary Edema: An accumulation of an excessive amount of watery fluid in the lungs, may be caused by acute exposure to dangerous concentrations of irritant gasses. [NIH]

Pulmonary Ventilation: The total volume of gas per minute inspired or expired measured in liters per minute. [NIH]

Pyruvate Kinase: ATP:pyruvate 2-O-phosphotransferase. A phosphotransferase that catalyzes reversibly the phosphorylation of pyruvate to phosphoenolpyruvate in the presence of ATP. It has four isozymes (L, R, M1, and M2). Deficiency of the enzyme results in hemolytic anemia. EC 2.7.1.40. [NIH]

Radiation: Emission or propagation of electromagnetic energy (waves/rays), or the waves/rays themselves; a stream of electromagnetic particles (electrons, neutrons, protons, alpha particles) or a mixture of these. The most common source is the sun. [NIH]

Radiation therapy: The use of high-energy radiation from x-rays, gamma rays, neutrons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body in the area near cancer cells (internal radiation therapy, implant radiation, or brachytherapy). Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that circulates throughout the body. Also called radiotherapy. [NIH]

Radioactive: Giving off radiation. [NIH]

Radioimmunotherapy: Radiotherapy where cytotoxic radionuclides are linked to antibodies in order to deliver toxins directly to tumor targets. Therapy with targeted radiation rather than antibody-targeted toxins (immunotoxins) has the advantage that adjacent tumor cells, which lack the appropriate antigenic determinants, can be destroyed by radiation cross-fire. Radioimmunotherapy is sometimes called targeted radiotherapy, but this latter term can also refer to radionuclides linked to non-immune molecules (radiotherapy). [NIH]

Radiolabeled: Any compound that has been joined with a radioactive substance. [NIH]

Radiological: Pertaining to radiodiagnostic and radiotherapeutic procedures, and interventional radiology or other planning and guiding medical radiology. [NIH]

Radiology: A specialty concerned with the use of x-ray and other forms of radiant energy in the diagnosis and treatment of disease. [NIH]

Radiotherapy: The use of ionizing radiation to treat malignant neoplasms and other benign conditions. The most common forms of ionizing radiation used as therapy are x-rays, gamma rays, and electrons. A special form of radiotherapy, targeted radiotherapy, links a cytotoxic radionuclide to a molecule that targets the tumor. When this molecule is an antibody or other immunologic molecule, the technique is called radioimmunotherapy. [NIH]

Randomized: Describes an experiment or clinical trial in which animal or human subjects are assigned by chance to separate groups that compare different treatments. [NIH]

Randomized clinical trial: A study in which the participants are assigned by chance to

separate groups that compare different treatments; neither the researchers nor the participants can choose which group. Using chance to assign people to groups means that the groups will be similar and that the treatments they receive can be compared objectively. At the time of the trial, it is not known which treatment is best. It is the patient's choice to be in a randomized trial. [NIH]

Ras gene: A gene that has been found to cause cancer when it is altered (mutated). Agents that block its activity may stop the growth of cancer. A ras peptide is a protein fragment produced by the ras gene. [NIH]

Reactive Oxygen Species: Reactive intermediate oxygen species including both radicals and non-radicals. These substances are constantly formed in the human body and have been shown to kill bacteria and inactivate proteins, and have been implicated in a number of diseases. Scientific data exist that link the reactive oxygen species produced by inflammatory phagocytes to cancer development. [NIH]

Reagent: A substance employed to produce a chemical reaction so as to detect, measure, produce, etc., other substances. [EU]

Receptor: A molecule inside or on the surface of a cell that binds to a specific substance and causes a specific physiologic effect in the cell. [NIH]

Recombinant: A cell or an individual with a new combination of genes not found together in either parent; usually applied to linked genes. [EU]

Rectal: By or having to do with the rectum. The rectum is the last 8 to 10 inches of the large intestine and ends at the anus. [NIH]

Rectum: The last 8 to 10 inches of the large intestine. [NIH]

Recurrence: The return of a sign, symptom, or disease after a remission. [NIH]

Red blood cells: RBCs. Cells that carry oxygen to all parts of the body. Also called erythrocytes. [NIH]

Red Nucleus: A pinkish-yellow portion of the midbrain situated in the rostral mesencephalic tegmentum. It receives a large projection from the contralateral half of the cerebellum via the superior cerebellar peduncle and a projection from the ipsilateral motor cortex. [NIH]

Reductase: Enzyme converting testosterone to dihydrotestosterone. [NIH]

Refer: To send or direct for treatment, aid, information, de decision. [NIH]

Refraction: A test to determine the best eyeglasses or contact lenses to correct a refractive error (myopia, hyperopia, or astigmatism). [NIH]

Refractory: Not readily yielding to treatment. [EU]

Regimen: A treatment plan that specifies the dosage, the schedule, and the duration of treatment. [NIH]

Regurgitation: A backward flowing, as the casting up of undigested food, or the backward flowing of blood into the heart, or between the chambers of the heart when a valve is incompetent. [EU]

Relapse: The return of signs and symptoms of cancer after a period of improvement. [NIH]

Relative risk: The ratio of the incidence rate of a disease among individuals exposed to a specific risk factor to the incidence rate among unexposed individuals; synonymous with risk ratio. Alternatively, the ratio of the cumulative incidence rate in the exposed to the cumulative incidence rate in the unexposed (cumulative incidence ratio). The term relative risk has also been used synonymously with odds ratio. This is because the odds ratio and relative risk approach each other if the disease is rare (5 percent of population) and the

number of subjects is large. [NIH]

Remission: A decrease in or disappearance of signs and symptoms of cancer. In partial remission, some, but not all, signs and symptoms of cancer have disappeared. In complete remission, all signs and symptoms of cancer have disappeared, although there still may be cancer in the body. [NIH]

Reproductive system: In women, this system includes the ovaries, the fallopian tubes, the uterus (womb), the cervix, and the vagina (birth canal). The reproductive system in men includes the prostate, the testes, and the penis. [NIH]

Resected: Surgical removal of part of an organ. [NIH]

Resection: Removal of tissue or part or all of an organ by surgery. [NIH]

Respiration: The act of breathing with the lungs, consisting of inspiration, or the taking into the lungs of the ambient air, and of expiration, or the expelling of the modified air which contains more carbon dioxide than the air taken in (Blakiston's Gould Medical Dictionary, 4th ed.). This does not include tissue respiration (= oxygen consumption) or cell respiration (= cell respiration). [NIH]

Respiratory System: The tubular and cavernous organs and structures, by means of which pulmonary ventilation and gas exchange between ambient air and the blood are brought about. [NIH]

Response rate: The percentage of patients whose cancer shrinks or disappears after treatment. [NIH]

Restoration: Broad term applied to any inlay, crown, bridge or complete denture which restores or replaces loss of teeth or oral tissues. [NIH]

Resuscitation: The restoration to life or consciousness of one apparently dead; it includes such measures as artificial respiration and cardiac massage. [EU]

Retinoblastoma: An eye cancer that most often occurs in children younger than 5 years. It occurs in hereditary and nonhereditary (sporadic) forms. [NIH]

Retinoid: Vitamin A or a vitamin A-like compound. [NIH]

Retreatment: The therapy of the same disease in a patient, with the same agent or procedure repeated after initial treatment, or with an additional or alternate measure or follow-up. It does not include therapy which requires more than one administration of a therapeutic agent or regimen. Retreatment is often used with reference to a different modality when the original one was inadequate, harmful, or unsuccessful. [NIH]

Reversion: A return to the original condition, e. g. the reappearance of the normal or wild type in previously mutated cells, tissues, or organisms. [NIH]

Ribosome: A granule of protein and RNA, synthesized in the nucleolus and found in the cytoplasm of cells. Ribosomes are the main sites of protein synthesis. Messenger RNA attaches to them and there receives molecules of transfer RNA bearing amino acids. [NIH]

Rigidity: Stiffness or inflexibility, chiefly that which is abnormal or morbid; rigor. [EU]

Risk factor: A habit, trait, condition, or genetic alteration that increases a person's chance of developing a disease. [NIH]

Risk patient: Patient who is at risk, because of his/her behaviour or because of the type of person he/she is. [EU]

Rod: A reception for vision, located in the retina. [NIH]

Rubber: A high-molecular-weight polymeric elastomer derived from the milk juice (latex) of Hevea brasiliensis and other trees. It is a substance that can be stretched at room temperature to atleast twice its original length and after releasing the stress, retractrapidly,

and recover its original dimensions fully. Synthetic rubber is made from many different chemicals, including styrene, acrylonitrile, ethylene, propylene, and isoprene. [NIH]

Saliva: The clear, viscous fluid secreted by the salivary glands and mucous glands of the mouth. It contains mucins, water, organic salts, and ptylin. [NIH]

Salivary: The duct that convey saliva to the mouth. [NIH]

Salivary glands: Glands in the mouth that produce saliva. [NIH]

Sanitation: The development and establishment of environmental conditions favorable to the health of the public. [NIH]

Sarcoma: A connective tissue neoplasm formed by proliferation of mesodermal cells; it is usually highly malignant. [NIH]

Sclerosis: A pathological process consisting of hardening or fibrosis of an anatomical structure, often a vessel or a nerve. [NIH]

Screening: Checking for disease when there are no symptoms. [NIH]

Secondary tumor: Cancer that has spread from the organ in which it first appeared to another organ. For example, breast cancer cells may spread (metastasize) to the lungs and cause the growth of a new tumor. When this happens, the disease is called metastatic breast cancer, and the tumor in the lungs is called a secondary tumor. Also called secondary cancer. [NIH]

Secretion: 1. The process of elaborating a specific product as a result of the activity of a gland; this activity may range from separating a specific substance of the blood to the elaboration of a new chemical substance. 2. Any substance produced by secretion. [EU]

Secretory: Secreting; relating to or influencing secretion or the secretions. [NIH]

Sedative: 1. Allaying activity and excitement. 2. An agent that allays excitement. [EU]

Seizures: Clinical or subclinical disturbances of cortical function due to a sudden, abnormal, excessive, and disorganized discharge of brain cells. Clinical manifestations include abnormal motor, sensory and psychic phenomena. Recurrent seizures are usually referred to as epilepsy or "seizure disorder." [NIH]

Selenium: An element with the atomic symbol Se, atomic number 34, and atomic weight 78.96. It is an essential micronutrient for mammals and other animals but is toxic in large amounts. Selenium protects intracellular structures against oxidative damage. It is an essential component of glutathione peroxidase. [NIH]

Semen: The thick, yellowish-white, viscid fluid secretion of male reproductive organs discharged upon ejaculation. In addition to reproductive organ secretions, it contains spermatozoa and their nutrient plasma. [NIH]

Semisynthetic: Produced by chemical manipulation of naturally occurring substances. [EU]

Sensibility: The ability to receive, feel and appreciate sensations and impressions; the quality of being sensitive; the extend to which a method gives results that are free from false negatives. [NIH]

Sequence Homology: The degree of similarity between sequences. Studies of amino acid and nucleotide sequences provide useful information about the genetic relatedness of certain species. [NIH]

Sequencing: The determination of the order of nucleotides in a DNA or RNA chain. [NIH]

Serine: A non-essential amino acid occurring in natural form as the L-isomer. It is synthesized from glycine or threonine. It is involved in the biosynthesis of purines, pyrimidines, and other amino acids. [NIH]

Serotonin: A biochemical messenger and regulator, synthesized from the essential amino acid L-tryptophan. In humans it is found primarily in the central nervous system, gastrointestinal tract, and blood platelets. Serotonin mediates several important physiological functions including neurotransmission, gastrointestinal motility, hemostasis, and cardiovascular integrity. Multiple receptor families (receptors, serotonin) explain the broad physiological actions and distribution of this biochemical mediator. [NIH]

Serum: The clear liquid part of the blood that remains after blood cells and clotting proteins have been removed. [NIH]

Sessile: Attached directly by the base, denoting a tumor without penduncle or stalk; in zoology, attached so that it is not possible to move about. [NIH]

Sex Determination: The biological characteristics which distinguish human beings as female or male. [NIH]

Side effect: A consequence other than the one(s) for which an agent or measure is used, as the adverse effects produced by a drug, especially on a tissue or organ system other than the one sought to be benefited by its administration. [EU]

Signal Transduction: The intercellular or intracellular transfer of information (biological activation/inhibition) through a signal pathway. In each signal transduction system, an activation/inhibition signal from a biologically active molecule (hormone, neurotransmitter) is mediated via the coupling of a receptor/enzyme to a second messenger system or to an ion channel. Signal transduction plays an important role in activating cellular functions, cell differentiation, and cell proliferation. Examples of signal transduction systems are the GABA-postsynaptic receptor-calcium ion channel system, the receptor-mediated T-cell activation pathway, and the receptor-mediated activation of phospholipases. Those coupled to membrane depolarization or intracellular release of calcium include the receptor-mediated activation of cytotoxic functions in granulocytes and the synaptic potentiation of protein kinase activation. Some signal transduction pathways may be part of larger signal transduction pathways; for example, protein kinase activation is part of the platelet activation signal pathway. [NIH]

Signs and Symptoms: Clinical manifestations that can be either objective when observed by a physician, or subjective when perceived by the patient. [NIH]

Small cell lung cancer: A type of lung cancer in which the cells appear small and round when viewed under the microscope. Also called oat cell lung cancer. [NIH]

Small intestine: The part of the digestive tract that is located between the stomach and the large intestine. [NIH]

Smoldering leukemia: Disease in which the bone marrow does not function normally. Also called preleukemia or myelodysplastic syndrome. [NIH]

Sodium: An element that is a member of the alkali group of metals. It has the atomic symbol Na, atomic number 11, and atomic weight 23. With a valence of 1, it has a strong affinity for oxygen and other nonmetallic elements. Sodium provides the chief cation of the extracellular body fluids. Its salts are the most widely used in medicine. (From Dorland, 27th ed) Physiologically the sodium ion plays a major role in blood pressure regulation, maintenance of fluid volume, and electrolyte balance. [NIH]

Soft tissue: Refers to muscle, fat, fibrous tissue, blood vessels, or other supporting tissue of the body. [NIH]

Solid tumor: Cancer of body tissues other than blood, bone marrow, or the lymphatic system. [NIH]

Solitary Nucleus: Gray matter located in the dorsomedial part of the medulla oblongata

associated with the solitary tract. The solitary nucleus receives inputs from most organ systems including the terminations of the facial, glossopharyngeal, and vagus nerves. It is a major coordinator of autonomic nervous system regulation of cardiovascular, respiratory, gustatory, gastrointestinal, and chemoreceptive aspects of homeostasis. The solitary nucleus is also notable for the large number of neurotransmitters which are found therein. [NIH]

Soma: The body as distinct from the mind; all the body tissue except the germ cells; all the axial body. [NIH]

Somatic: 1. Pertaining to or characteristic of the soma or body. 2. Pertaining to the body wall in contrast to the viscera. [EU]

Somatic cells: All the body cells except the reproductive (germ) cells. [NIH]

Sorbitol: A polyhydric alcohol with about half the sweetness of sucrose. Sorbitol occurs naturally and is also produced synthetically from glucose. It was formerly used as a diuretic and may still be used as a laxative and in irrigating solutions for some surgical procedures. It is also used in many manufacturing processes, as a pharmaceutical aid, and in several research applications. [NIH]

Spasmodic: Of the nature of a spasm. [EU]

Spastic: 1. Of the nature of or characterized by spasms. 2. Hypertonic, so that the muscles are stiff and the movements awkward. 3. A person exhibiting spasticity, such as occurs in spastic paralysis or in cerebral palsy. [EU]

Specialist: In medicine, one who concentrates on 1 special branch of medical science. [NIH]

Species: A taxonomic category subordinate to a genus (or subgenus) and superior to a subspecies or variety, composed of individuals possessing common characters distinguishing them from other categories of individuals of the same taxonomic level. In taxonomic nomenclature, species are designated by the genus name followed by a Latin or Latinized adjective or noun. [EU]

Specificity: Degree of selectivity shown by an antibody with respect to the number and types of antigens with which the antibody combines, as well as with respect to the rates and the extents of these reactions. [NIH]

Spectrum: A charted band of wavelengths of electromagnetic vibrations obtained by refraction and diffraction. By extension, a measurable range of activity, such as the range of bacteria affected by an antibiotic (antibacterial s.) or the complete range of manifestations of a disease. [EU]

Sperm: The fecundating fluid of the male. [NIH]

Spermatozoa: Mature male germ cells that develop in the seminiferous tubules of the testes. Each consists of a head, a body, and a tail that provides propulsion. The head consists mainly of chromatin. [NIH]

Spinal cord: The main trunk or bundle of nerves running down the spine through holes in the spinal bone (the vertebrae) from the brain to the level of the lower back. [NIH]

Spleen: An organ that is part of the lymphatic system. The spleen produces lymphocytes, filters the blood, stores blood cells, and destroys old blood cells. It is located on the left side of the abdomen near the stomach. [NIH]

Splenectomy: An operation to remove the spleen. [NIH]

Splenomegaly: Enlargement of the spleen. [NIH]

Sporadic: Neither endemic nor epidemic; occurring occasionally in a random or isolated manner. [EU]

Squamous: Scaly, or platelike. [EU]

Squamous cell carcinoma: Cancer that begins in squamous cells, which are thin, flat cells resembling fish scales. Squamous cells are found in the tissue that forms the surface of the skin, the lining of the hollow organs of the body, and the passages of the respiratory and digestive tracts. Also called epidermoid carcinoma. [NIH]

Squamous cell carcinoma: Cancer that begins in squamous cells, which are thin, flat cells resembling fish scales. Squamous cells are found in the tissue that forms the surface of the skin, the lining of the hollow organs of the body, and the passages of the respiratory and digestive tracts. Also called epidermoid carcinoma. [NIH]

Squamous cells: Flat cells that look like fish scales under a microscope. These cells cover internal and external surfaces of the body. [NIH]

Staging: Performing exams and tests to learn the extent of the cancer within the body, especially whether the disease has spread from the original site to other parts of the body. [NIH]

Steel: A tough, malleable, iron-based alloy containing up to, but no more than, two percent carbon and often other metals. It is used in medicine and dentistry in implants and instrumentation. [NIH]

Stem Cells: Relatively undifferentiated cells of the same lineage (family type) that retain the ability to divide and cycle throughout postnatal life to provide cells that can become specialized and take the place of those that die or are lost. [NIH]

Stent: A device placed in a body structure (such as a blood vessel or the gastrointestinal tract) to provide support and keep the structure open. [NIH]

Stimulants: Any drug or agent which causes stimulation. [NIH]

Stimulus: That which can elicit or evoke action (response) in a muscle, nerve, gland or other excitable issue, or cause an augmenting action upon any function or metabolic process. [NIH]

Stomach: An organ of digestion situated in the left upper quadrant of the abdomen between the termination of the esophagus and the beginning of the duodenum. [NIH]

Stomach Ulcer: An open sore in the lining of the stomach. Also called gastric ulcer. [NIH]

Stool: The waste matter discharged in a bowel movement; feces. [NIH]

Stress: Forcibly exerted influence; pressure. Any condition or situation that causes strain or tension. Stress may be either physical or psychologic, or both. [NIH]

Stroke: Sudden loss of function of part of the brain because of loss of blood flow. Stroke may be caused by a clot (thrombosis) or rupture (hemorrhage) of a blood vessel to the brain. [NIH]

Stroma: The middle, thickest layer of tissue in the cornea. [NIH]

Stromal: Large, veil-like cell in the bone marrow. [NIH]

Stump: The end of the limb after amputation. [NIH]

Styrene: A colorless, toxic liquid with a strong aromatic odor. It is used to make rubbers, polymers and copolymers, and polystyrene plastics. [NIH]

Subacute: Somewhat acute; between acute and chronic. [EU]

Subclinical: Without clinical manifestations; said of the early stage(s) of an infection or other disease or abnormality before symptoms and signs become apparent or detectable by clinical examination or laboratory tests, or of a very mild form of an infection or other disease or abnormality. [EU]

Subcutaneous: Beneath the skin. [NIH]

Submaxillary: Four to six lymph glands, located between the lower jaw and the submandibular salivary gland. [NIH]

Subspecies: A category intermediate in rank between species and variety, based on a smaller number of correlated characters than are used to differentiate species and generally conditioned by geographical and/or ecological occurrence. [NIH]

Substance P: An eleven-amino acid neurotransmitter that appears in both the central and peripheral nervous systems. It is involved in transmission of pain, causes rapid contractions of the gastrointestinal smooth muscle, and modulates inflammatory and immune responses. [NIH]

Substrate: A substance upon which an enzyme acts. [EU]

Sulfur: An element that is a member of the chalcogen family. It has an atomic symbol S, atomic number 16, and atomic weight 32.066. It is found in the amino acids cysteine and methionine. [NIH]

Supplementation: Adding nutrients to the diet. [NIH]

Support group: A group of people with similar disease who meet to discuss how better to cope with their cancer and treatment. [NIH]

Supportive care: Treatment given to prevent, control, or relieve complications and side effects and to improve the comfort and quality of life of people who have cancer. [NIH]

Suppression: A conscious exclusion of disapproved desire contrary with repression, in which the process of exclusion is not conscious. [NIH]

Suppressive: Tending to suppress : effecting suppression; specifically : serving to suppress activity, function, symptoms. [EU]

Suramin: A polyanionic compound with an unknown mechanism of action. It is used parenterally in the treatment of African trypanosomiasis and it has been used clinically with diethylcarbamazine to kill the adult Onchocerca. (From AMA Drug Evaluations Annual, 1992, p1643) It has also been shown to have potent antineoplastic properties. [NIH]

Surfactant: A fat-containing protein in the respiratory passages which reduces the surface tension of pulmonary fluids and contributes to the elastic properties of pulmonary tissue. [NIH]

Survival Rate: The proportion of survivors in a group, e.g., of patients, studied and followed over a period, or the proportion of persons in a specified group alive at the beginning of a time interval who survive to the end of the interval. It is often studied using life table methods. [NIH]

Sympathetic Nervous System: The thoracolumbar division of the autonomic nervous system. Sympathetic preganglionic fibers originate in neurons of the intermediolateral column of the spinal cord and project to the paravertebral and prevertebral ganglia, which in turn project to target organs. The sympathetic nervous system mediates the body's response to stressful situations, i.e., the fight or flight reactions. It often acts reciprocally to the parasympathetic system. [NIH]

Symphysis: A secondary cartilaginous joint. [NIH]

Symptomatic: Having to do with symptoms, which are signs of a condition or disease. [NIH]

Synaptic: Pertaining to or affecting a synapse (= site of functional apposition between neurons, at which an impulse is transmitted from one neuron to another by electrical or chemical means); pertaining to synapsis (= pairing off in point-for-point association of homologous chromosomes from the male and female pronuclei during the early prophase of meiosis). [EU]

Syncytium: A living nucleated tissue without apparent cellular structure; a tissue composed of a mass of nucleated protoplasm without cell boundaries. [NIH]

Synergistic: Acting together; enhancing the effect of another force or agent. [EU]

Synthetic retinoid: A substance related to vitamin A that is produced in a laboratory. [NIH]

Systemic: Affecting the entire body. [NIH]

Telangiectasia: The permanent enlargement of blood vessels, causing redness in the skin or mucous membranes. [NIH]

Telomerase: Essential ribonucleoprotein reverse transcriptase that adds telomeric DNA to the ends of eukaryotic chromosomes. Telomerase appears to be repressed in normal human somatic tissues but reactivated in cancer, and thus may be necessary for malignant transformation. EC 2.7.7.-. [NIH]

Telomere: A terminal section of a chromosome which has a specialized structure and which is involved in chromosomal replication and stability. Its length is believed to be a few hundred base pairs. [NIH]

Tenesmus: Straining, especially ineffectual and painful straining at stool or in urination. [EU]

Terminator: A DNA sequence sited at the end of a transcriptional unit that signals the end of transcription. [NIH]

Testosterone: A hormone that promotes the development and maintenance of male sex characteristics. [NIH]

Tetracycline: An antibiotic originally produced by Streptomyces viridifaciens, but used mostly in synthetic form. It is an inhibitor of aminoacyl-tRNA binding during protein synthesis. [NIH]

Thalamic: Cell that reaches the lateral nucleus of amygdala. [NIH]

Thalamic Diseases: Disorders of the centrally located thalamus, which integrates a wide range of cortical and subcortical information. Manifestations include sensory loss, movement disorders; ataxia, pain syndromes, visual disorders, a variety of neuropsychological conditions, and coma. Relatively common etiologies include cerebrovascular disorders; craniocerebral trauma; brain neoplasms; brain hypoxia; intracranial hemorrhages; and infectious processes. [NIH]

Therapeutics: The branch of medicine which is concerned with the treatment of diseases, palliative or curative. [NIH]

Thiamine: 3-((4-Amino-2-methyl-5-pyrimidinyl)methyl)-5-(2-hydroxyethyl)-4-methylthiazolium chloride. [NIH]

Thioredoxin: A hydrogen-carrying protein that participates in a variety of biochemical reactions including ribonucleotide reduction. Thioredoxin is oxidized from a dithiol to a disulfide during ribonucleotide reduction. The disulfide form is then reduced by NADPH in a reaction catalyzed by thioredoxin reductase. [NIH]

Thoracic: Having to do with the chest. [NIH]

Thorax: A part of the trunk between the neck and the abdomen; the chest. [NIH]

Threonine: An essential amino acid occurring naturally in the L-form, which is the active form. It is found in eggs, milk, gelatin, and other proteins. [NIH]

Thrombin: An enzyme formed from prothrombin that converts fibrinogen to fibrin. (Dorland, 27th ed) EC 3.4.21.5. [NIH]

Thrombolytic: 1. Dissolving or splitting up a thrombus. 2. A thrombolytic agent. [EU]

Thrombomodulin: A cell surface glycoprotein of endothelial cells that binds thrombin and serves as a cofactor in the activation of protein C and its regulation of blood coagulation. [NIH]

Thrombosis: The formation or presence of a blood clot inside a blood vessel. [NIH]

Thymidine: A chemical compound found in DNA. Also used as treatment for mucositis. [NIH]

Thymidylate Synthase: An enzyme of the transferase class that catalyzes the reaction 5,10-methylenetetrahydrofolate and dUMP to dihydrofolate and dTMP in the synthesis of thymidine triphosphate. (From Dorland, 27th ed) EC 2.1.1.45. [NIH]

Thymosin: A family of heat-stable, polypeptide hormones secreted by the thymus gland. Their biological activities include lymphocytopoiesis, restoration of immunological competence and enhancement of expression of T-cell characteristics and function. They have therapeutic potential in patients having primary or secondary immunodeficiency diseases, cancer or diseases related to aging. [NIH]

Thymus: An organ that is part of the lymphatic system, in which T lymphocytes grow and multiply. The thymus is in the chest behind the breastbone. [NIH]

Thymus Gland: A single, unpaired primary lymphoid organ situated in the mediastinum, extending superiorly into the neck to the lower edge of the thyroid gland and inferiorly to the fourth costal cartilage. It is necessary for normal development of immunologic function early in life. By puberty, it begins to involute and much of the tissue is replaced by fat. [NIH]

Thyroid: A gland located near the windpipe (trachea) that produces thyroid hormone, which helps regulate growth and metabolism. [NIH]

Tissue: A group or layer of cells that are alike in type and work together to perform a specific function. [NIH]

Tissue Distribution: Accumulation of a drug or chemical substance in various organs (including those not relevant to its pharmacologic or therapeutic action). This distribution depends on the blood flow or perfusion rate of the organ, the ability of the drug to penetrate organ membranes, tissue specificity, protein binding. The distribution is usually expressed as tissue to plasma ratios. [NIH]

Tolerance: 1. The ability to endure unusually large doses of a drug or toxin. 2. Acquired drug tolerance; a decreasing response to repeated constant doses of a drug or the need for increasing doses to maintain a constant response. [EU]

Topical: On the surface of the body. [NIH]

Topoisomerase inhibitors: A family of anticancer drugs. The topoisomerase enzymes are responsible for the arrangement and rearrangement of DNA in the cell and for cell growth and replication. Inhibiting these enzymes may kill cancer cells or stop their growth. [NIH]

Toxic: Having to do with poison or something harmful to the body. Toxic substances usually cause unwanted side effects. [NIH]

Toxicity: The quality of being poisonous, especially the degree of virulence of a toxic microbe or of a poison. [EU]

Toxicology: The science concerned with the detection, chemical composition, and pharmacologic action of toxic substances or poisons and the treatment and prevention of toxic manifestations. [NIH]

Toxins: Specific, characterizable, poisonous chemicals, often proteins, with specific biological properties, including immunogenicity, produced by microbes, higher plants, or animals. [NIH]

Trace element: Substance or element essential to plant or animal life, but present in extremely small amounts. [NIH]

Transcriptase: An enzyme which catalyses the synthesis of a complementary mRNA molecule from a DNA template in the presence of a mixture of the four ribonucleotides (ATP, UTP, GTP and CTP). [NIH]

Transduction: The transfer of genes from one cell to another by means of a viral (in the case of bacteria, a bacteriophage) vector or a vector which is similar to a virus particle (pseudovirion). [NIH]

Transfection: The uptake of naked or purified DNA into cells, usually eukaryotic. It is analogous to bacterial transformation. [NIH]

Transfer Factor: Factor derived from leukocyte lysates of immune donors which can transfer both local and systemic cellular immunity to nonimmune recipients. [NIH]

Translation: The process whereby the genetic information present in the linear sequence of ribonucleotides in mRNA is converted into a corresponding sequence of amino acids in a protein. It occurs on the ribosome and is unidirectional. [NIH]

Translational: The cleavage of signal sequence that directs the passage of the protein through a cell or organelle membrane. [NIH]

Translocation: The movement of material in solution inside the body of the plant. [NIH]

Transplantation: Transference of a tissue or organ, alive or dead, within an individual, between individuals of the same species, or between individuals of different species. [NIH]

Trastuzumab: A type of monoclonal antibody used in cancer detection or therapy. Monoclonal antibodies are laboratory-produced substances that can locate and bind to cancer cells. Trastuzumab blocks the effects of the growth factor protein HER2, which transmits growth signals to breast cancer cells. [NIH]

Trees: Woody, usually tall, perennial higher plants (Angiosperms, Gymnosperms, and some Pterophyta) having usually a main stem and numerous branches. [NIH]

Triad: Trivalent. [NIH]

Trichomoniasis: An infection with the protozoan parasite Trichomonas vaginalis. [NIH]

Trypanosomiasis: Infection with protozoa of the genus Trypanosoma. [NIH]

Trypsin: A serine endopeptidase that is formed from trypsinogen in the pancreas. It is converted into its active form by enteropeptidase in the small intestine. It catalyzes hydrolysis of the carboxyl group of either arginine or lysine. EC 3.4.21.4. [NIH]

Tuberculosis: Any of the infectious diseases of man and other animals caused by species of Mycobacterium. [NIH]

Tuberous Sclerosis: A rare congenital disease in which the essential pathology is the appearance of multiple tumors in the cerebrum and in other organs, such as the heart or kidneys. [NIH]

Tumor marker: A substance sometimes found in an increased amount in the blood, other body fluids, or tissues and which may mean that a certain type of cancer is in the body. Examples of tumor markers include CA 125 (ovarian cancer), CA 15-3 (breast cancer), CEA (ovarian, lung, breast, pancreas, and gastrointestinal tract cancers), and PSA (prostate cancer). Also called biomarker. [NIH]

Tumor suppressor gene: Genes in the body that can suppress or block the development of cancer. [NIH]

Tumour: 1. Swelling, one of the cardinal signs of inflammations; morbid enlargement. 2. A new growth of tissue in which the multiplication of cells is uncontrolled and progressive; called also neoplasm. [EU]

Typhimurium: Microbial assay which measures his-his+ reversion by chemicals which cause base substitutions or frameshift mutations in the genome of this organism. [NIH]

Tyrosine: A non-essential amino acid. In animals it is synthesized from phenylalanine. It is also the precursor of epinephrine, thyroid hormones, and melanin. [NIH]

Ulcer: A localized necrotic lesion of the skin or a mucous surface. [NIH]

Ulceration: 1. The formation or development of an ulcer. 2. An ulcer. [EU]

Ulcerative colitis: Chronic inflammation of the colon that produces ulcers in its lining. This condition is marked by abdominal pain, cramps, and loose discharges of pus, blood, and mucus from the bowel. [NIH]

Unconscious: Experience which was once conscious, but was subsequently rejected, as the "personal unconscious". [NIH]

Unresectable: Unable to be surgically removed. [NIH]

Uracil: An anticancer drug that belongs to the family of drugs called alkylating agents. [NIH]

Urea: A compound (CO(NH2)2), formed in the liver from ammonia produced by the deamination of amino acids. It is the principal end product of protein catabolism and constitutes about one half of the total urinary solids. [NIH]

Uremia: The illness associated with the buildup of urea in the blood because the kidneys are not working effectively. Symptoms include nausea, vomiting, loss of appetite, weakness, and mental confusion. [NIH]

Urethra: The tube through which urine leaves the body. It empties urine from the bladder. [NIH]

Uric: A kidney stone that may result from a diet high in animal protein. When the body breaks down this protein, uric acid levels rise and can form stones. [NIH]

Urinary: Having to do with urine or the organs of the body that produce and get rid of urine. [NIH]

Urine: Fluid containing water and waste products. Urine is made by the kidneys, stored in the bladder, and leaves the body through the urethra. [NIH]

Urokinase: A drug that dissolves blood clots or prevents them from forming. [NIH]

Uterus: The small, hollow, pear-shaped organ in a woman's pelvis. This is the organ in which a fetus develops. Also called the womb. [NIH]

Vaccination: Administration of vaccines to stimulate the host's immune response. This includes any preparation intended for active immunological prophylaxis. [NIH]

Vaccine: A substance or group of substances meant to cause the immune system to respond to a tumor or to microorganisms, such as bacteria or viruses. [NIH]

Vagina: The muscular canal extending from the uterus to the exterior of the body. Also called the birth canal. [NIH]

Valerian: Valeriana officinale, an ancient, sedative herb of the large family Valerianaceae. The roots were formerly used to treat hysterias and other neurotic states and are presently used to treat sleep disorders. [NIH]

Varices: Stretched veins such as those that form in the esophagus from cirrhosis. [NIH]

Vascular: Pertaining to blood vessels or indicative of a copious blood supply. [EU]

Vasodilators: Any nerve or agent which induces dilatation of the blood vessels. [NIH]

VE: The total volume of gas either inspired or expired in one minute. [NIH]

Vector: Plasmid or other self-replicating DNA molecule that transfers DNA between cells in nature or in recombinant DNA technology. [NIH]

Vein: Vessel-carrying blood from various parts of the body to the heart. [NIH]

Venous: Of or pertaining to the veins. [EU]

Ventral: 1. Pertaining to the belly or to any venter. 2. Denoting a position more toward the

belly surface than some other object of reference; same as anterior in human anatomy. [EU]

Verapamil: A calcium channel blocker that is a class IV anti-arrhythmia agent. [NIH]

Veterinary Medicine: The medical science concerned with the prevention, diagnosis, and treatment of diseases in animals. [NIH]

Villous: Of a surface, covered with villi. [NIH]

Vinca Alkaloids: A class of alkaloids from the genus of apocyanaceous woody herbs including periwinkles. They are some of the most useful antineoplastic agents. [NIH]

Vincristine: An anticancer drug that belongs to the family of plant drugs called vinca alkaloids. [NIH]

Viral: Pertaining to, caused by, or of the nature of virus. [EU]

Virulence: The degree of pathogenicity within a group or species of microorganisms or viruses as indicated by case fatality rates and/or the ability of the organism to invade the tissues of the host. [NIH]

Virulent: A virus or bacteriophage capable only of lytic growth, as opposed to temperate phages establishing the lysogenic response. [NIH]

Virus: Submicroscopic organism that causes infectious disease. In cancer therapy, some viruses may be made into vaccines that help the body build an immune response to, and kill, tumor cells. [NIH]

Viscera: Any of the large interior organs in any one of the three great cavities of the body, especially in the abdomen. [NIH]

Visceral: , from viscus a viscus) pertaining to a viscus. [EU]

Visceral Afferents: The sensory fibers innervating the viscera. [NIH]

Vitro: Descriptive of an event or enzyme reaction under experimental investigation occurring outside a living organism. Parts of an organism or microorganism are used together with artificial substrates and/or conditions. [NIH]

Vivo: Outside of or removed from the body of a living organism. [NIH]

White blood cell: A type of cell in the immune system that helps the body fight infection and disease. White blood cells include lymphocytes, granulocytes, macrophages, and others. [NIH]

Womb: A hollow, thick-walled, muscular organ in which the impregnated ovum is developed into a child. [NIH]

X-ray: High-energy radiation used in low doses to diagnose diseases and in high doses to treat cancer. [NIH]

X-ray therapy: The use of high-energy radiation from x-rays to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy) or from materials called radioisotopes. Radioisotopes produce radiation and can be placed in or near the tumor or in the area near cancer cells. This type of radiation treatment is called internal radiation therapy, implant radiation, interstitial radiation, or brachytherapy. Systemic radiation therapy uses a radioactive substance, such as a radiolabeled monoclonal antibody, that circulates throughout the body. X-ray therapy is also called radiation therapy, radiotherapy, and irradiation. [NIH]

Yeasts: A general term for single-celled rounded fungi that reproduce by budding. Brewers' and bakers' yeasts are Saccharomyces cerevisiae; therapeutic dried yeast is dried yeast. [NIH]

Zymogen: Inactive form of an enzyme which can then be converted to the active form, usually by excision of a polypeptide, e. g. trypsinogen is the zymogen of trypsin. [NIH]

INDEX

H

R


9 780597 840784