The invention also modifies many phosphoproteins that are components of multimeric complexes. The sites modified by O-linked GlcNAc often resemble phosphorylation sites, leading to a suggestion that the modification may compete for substrate in these polypeptides. Based on the above properties, this technology may be useful in the following ways:

- As a terminal component of the hexosamine biosynthetic pathway, OGT may be a key target for systemic problems with glucose homeostasis such as diabetes mellitus.
- Model for glucose sensing by the pancreatic Beta cell.
- Model for the study of OGT role in regulating oncogene activity and function.
- Screen for various tumors correlating OGT activity with metastatic potential.
- Tumor suppressor activity and the involvement of OGT in transcriptional disregulation during transformation.

Dated: February 16, 1999.

Jack Spiegel,

Director, Division of Technology Development and Transfer, Office of Technology Transfer.

[FR Doc. 99–4660 Filed 2–24–99; 8:45 am]

BILLING CODE 4140–01–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, Public Health Service, DHHS.

ACTION: Notice.

SUMMARY: The inventions listed below are owned by agencies of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

ADDRESS: Licensing information and copies of the U.S. patent applications listed below may be obtained by contacting Susan S. Rucker, J.D., Patent and Licensing Specialist, Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7057 ext. 245; fax: 301/402–0220; e-mail: sr156v@nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Attenuated and Dominant Negative Varient cDNAs of Stat6: Stat6b and Stat6c

WJ LaRochelle, BKR Patel, JH Pierce (NCI)

PCT/US98/17821 filed 27 Aug 1998 and based on applications 60/070,397 and 60/056,075.

These application(s) disclose the identification, isolation, cloning and sequencing of two human variants of a signal transducer and activator of transcription (STAT) protein known as Stat6. The variants or isoforms of human Stat6 are designated Stat6b and Stat6c and they are, respectively, attenuated and dominant negative isoforms of Stat6. The STAT proteins are a family of signal transduction molecules which have been shown to play a role in modulating the activity of a variety of cytokines. In particular, Stat6 has been shown to be involved in interleukin-4 (IL-4) regulation suggesting that Stat6 may play a role in inflammatory and cell-mediated immune responses. The dominant negative isoform, Stat6c, is particularly interesting because of its ability to down-regulate the IL-4 response. This suggest that it may be useful alone or in identifying agents which may be useful in treating diseases linked to the IL-4 response such as asthma. Diagnostic applications for allergy or asthma may also be possible. In addition to describing the variants of Stat6 the application describes the promoter for Stat6 and notes that the gene is located on the long arm of chromosome 12 at 12q13.3–14.1. Regulation of the Stat6 promoter might provide insights toward the control of proliferative and inflammatory processes.

This work has appeared, in part, in PNAS, USA 95(1):172–77 (January 6, 1998) and Genomics 52(2):192–200 (Sept. 1, 1998).

Methods and Compositions for Treatment of Restenosis

AB Mukherjee, GC Kundu, DK Panda (NICHD)

DHHS Reference No. E–163–96/1 filed 07 Aug 98 (PCT/US98/16569) and claiming priority to 60/054,694 filed 07 Aug 97

This application describes the use of antisense oligonucleotides designed to inhibit osteopontin production, and their use in treating restenosis, the reocclusion of an artery following angioplasty. Utilizing blood samples and coronary artery tissues from patients it was demonstrated that OPN levels are increased both in the atherosclerotic tissues as well as in the blood following angioplasty. Further, using an in vitro system employing human coronary artery smooth muscle cell culture (CASMC), it has been demonstrated that these antisense molecules inhibit osteopontin expression.

This research has been published in PNAS USA 94(19):9308–13 (August 18, 1997).

cDNA for a Human Gene Deleted in Liver Cancer

BZ Yuan, NC Popescu, SS Thorgeirsson (NCI)

Serial No. 60/075,952 filed 25 Feb 98

This application discloses the identification, isolation, cloning and sequencing of a newly discovered gene, DLC-1 (Deleted in Liver Cancer), which has been localized to the short arm of chromosome 8 at 8p21.3–22 using FISH (fluorescent in situ hybridization). Studies of human tumors show that DLC-1 is deleted in 50% of primary hepatocellular carcinomas and is not expressed in 20% of hepatocellular carcinoma cell lines. This differential expression suggests that diagnostic applications of DLC-1 may be developed. Other cancers where preliminary data indicates that DLC-1 may have diagnostic possibilities are breast and colon cancer. A polyclonal antibody which recognizes DLC-1 has been characterized. Work to date indicates that DLC-1 is a tumor suppressor gene suggesting that gene therapy utilizing DLC-1 may also be possible.

This work has appeared, in part, in Cancer Research 58(10) : 2196–9 (May 15, 1998).

Partial Intron Sequence of Von Hippel-Lindau (VHL) Disease Gene and Its Use in Diagnosis of Disease

WM Linehan, MI Lerman, F Latif, B Zbar (NCI)

Serial No. 08/623,428 filed 28 Mar 96

This application, in conjunction with patents 5,654,138 (8/5/1997) and 5,759,790 (6/2/1998), describes the isolation, cloning, and sequencing of the gene associated with Von Hippel Lindau (VHL) syndrome. The sequence of VHL includes, in addition to the coding region, the sequence of the VHL promoter and genomic sequence information at the intron/exon boundaries of the VHL gene. The VHL gene is found on the short arm of chromosome 3 at 3p25–26. It functions as a tumor suppressor and has been associated with sporadic kidney cancer,

in particular clear cell renal carcinoma (cRCC). In particular, antibody-based or nucleotide-based diagnostics are contemplated in the applications. Various techniques have been used to examine VHL mutations including FISH (fluorescent in situ hybridization), southern blotting, PCR–SSCP and complete sequencing of the VHL gene.

There are numerous publications detailing the work of Dr. Linehan and his colleagues regarding the VHL disease gene. Two of these are Hum Mutat 12(6): 417–23 (1998) and Biochim Biophys Acta 1243 (3): 201–10 (March 18, 1996).

Dated: February 18, 1999.

Jack Spiegel,

Director, Division of Technology Development and Transfer, Office of Technology Transfer.

[FR Doc. 99–4661 Filed 2–24–99; 8:45 am]

BILLING CODE 4140–01–M

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National Institutes of Health

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Chimeric Virus-Like Particles for the Induction of Autoantibodies

John T. Schiller, Bryce Chackerian and Douglas R. Lowy (NCI)
Serial No. 60/105,132 filed 21 Oct 98
Licensing Contact: Robert Benson; 301/496–7056 ext. 267; e-mail: rb20m@nih.gov

This invention provides methods and constructs for inducing a B cell mediated antibody response against a self-antigen or tolerogen. Given that many disease states can be alleviated by decreasing the effect of a self-antigen, this invention has broad applicability. Autoantibody therapy might be preferable to monoclonal antibody therapy in some instances because the concentration of the therapeutic antibody would likely remain in an effective range for longer periods, an antibody response to the therapeutic antibody response would not be expected, and a polyclonal autoantibody response might be more effective than the monospecific response of a monoclonal antibody. The inventors have found that by presenting an epitope from the self-antigen as a highly organized array on the surface of virus-like particles (VLP), such as papillomavirus VLPs, that antibodies are raised against the self-antigen. Any therapeutic or prophylactic treatment which involves using monoclonal antibodies against a self-antigen can be replaced with the methods and VLPs of this invention. Examples of such diseases include autoimmune diseases such as rheumatoid arthritis and inflammatory bowel disease, or cancers such as breast cancer. The invention is also useful for producing mouse anti-self-antigen sera or monoclonal antibodies which should find myriad uses. The inventors have demonstrated a potential anti-HIV treatment by raising antibodies against the HIV co-receptors CCR5 in a mouse model system. Bovine papillomavirus L1 protein containing an epitope from an extracellular domain of CCR5 formed VLPs which raised anti-CCR5 antibodies. These antibodies blocked binding by the normal CCR5 ligand, RANTES, and, more importantly, blocked entry of HIV into the cells.

High-Stability Prokaryotic Plasmid Vector System

Stuart J. Austin (NCI)
Serial No. 60/108,253 filed 12 Nov 1998
Licensing Contact: J. Peter Kim; 301/496–7056 ext. 264; e-mail: jk141n@nih.gov

Plasmids used in vaccine production, production of biopharmaceuticals, and products of industrial importance are often unstably maintained, and loss of the plasmid from the host is a common limitation for efficient product yield. Accordingly, the subject invention could be particularly useful in continuous flow applications, e.g, large fermentation vat productions, where accumulation of cells that have lost the producer plasmid leads to long-term decline in product yield.

The present invention relates to the identification of a locus for plasmid stability. The scientists have mapped, sequenced, and characterized this locus. The DNA element appears to be highly effective in promoting the stable maintenance of a variety of unstable plasmids.

Identification of a Region of the Major Surface Glycoprotein (MSG) Gene of Human Pneumocystis carinii

Joseph Kovacs et al. (CC)
Serial No. 60/096,805 filed 17 Aug 1998
Licensing Contact: J. Peter Kim; 301/496–7056 ext. 264; e-mail: jk141n@nih.gov

Pneumocystis carinii is an important life-threatening opportunistic pathogen of immuno-compromised patients, especially for those with human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS).

The present invention provides for methods and kits for detecting *Pneumocystis carinii* infection in humans. More specifically, nucleic acid amplification (for example, polymerase chain reaction (PCR) amplification of human *Pneumocystis carinii* MSG-encoding genes (approximately 100 copies of which are present per genome), may provide a particularly sensitive and specific technique for the detection of *Pneumocystis carinii* and the diagnosis of *Pneumocystis carinii* pneumonia (PNP).

Ratio-Based Decisions and the Quantitative Analysis of cDNA Microarray Images

Y Chen (NHGRI)
Serial No. 60/102,365 filed 29 Sep 98
Licensing Contact: John Fahner-Vihtelic; 301/496–7735 ext. 270; e-mail: jf36z@nih.gov

The present invention relates to the quantitative analysis of gene expression by hybridizing fluor-tagged mRNA to targets on a cDNA microarray. A method and system of image segmentation is provided to identify cDNA target sites. The comparison of gene expression levels arising from cohybridized samples is achieved by taking ratios of average expression levels for individual genes. A confidence interval is developed to quantify the significance of observed differences in expression ratios. This technology has been implemented into a computer program called ArraySuite and provides a user-friendly display for the operator to view and analyze the results of the experiment.