specific for prostate adenocarcinomas and other prostate cancer cells. Accordingly, methods of therapy can be employed with this monoclonal antibody to destroy prostate cancer cells, and hence, this monoclonal antibody may be useful in therapy and/or the diagnosis of prostate cancer. This monoclonal antibody can be produced by recombinant DNA techniques, the host cell being a eucaryotic or procaryotic cell, preferably a eucaryotic cell and more preferably mammalian. Hence, a monoclonal antibody, a recombinant monoclonal antibody, single polypeptide binding molecules, and binding fragments thereof coupled to molecules which are cytotoxic to prostate cancer cells (e.g., chemotherapeutic agents, prodrugs, cytotoxic or inhibitory peptides, cytokines, enzymes, diphtheria toxin, *Pseudomonas* Exotoxin, etc.) could be used to develop a prostate cancer therapeutic or diagnostic test system.

The above mentioned Invention and technology are available for licensing.

Dated: April 18, 2000.

Jack Spiegel,

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

[FR Doc. 00–10177 Filed 4–21–00; 8:45 am]

BILLING CODE 4140–01–P

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.

ADDRESSES: Licensing information and copies of the U.S. patent applications listed below may be obtained by contacting Girish C. Barua, Ph.D., at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7056 ext. 263; fax: 301/402–0220; e-mail: BaruaG@od.nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Compositions and Methods for Treatment of Breast Cancer—the Synergistic Effect of Farnesyl Transferase Inhibitors and Tamoxifen Combination Therapy

Geoffrey J. Clark, Joanne Zujewski (NCI)
Serial No. 60/171,928 filed 22 Dec 1999

This invention discloses compositions that act in a synergistic manner to inhibit and or prevent breast cancer cell growth. Specifically, this invention discloses methods for treating and preventing breast cancer using a combination of selective estrogen receptor modulators (SERMs) and farnesyl transferase inhibitors (FTIs). The combination therapy comprising of at least one SERM and at least one FTI has shown enhanced therapeutic efficacy in killing cancer cells. Thus the combination therapy may lead to enhance efficacy of Tamoxifen or other SERM treatment regimes. For example, it is contemplated that the present invention will find use in a treatment therapy using lower doses of SERMs for a shorter duration. In some embodiments of the invention, therapeutic agents are administered to subjects suspected of having cancer or being susceptible to cancer, subjects with cancer, subjects experiencing a recurrence of cancer, or subjects who are post-operative for cancer. Additionally, the treatment agents could be administered prophylactically to patients at risk for development of cancer.

Tyrosyl-DNA Phosphodiesterases (TDP) and Related Polypeptides, Nucleic Acids, Vectors, TDP-Producing Host Cell, Antibodies and Methods of Use

Jeffrey J Pouliot, Howard A Nash (NIMH)
Serial No. 60/157,690, filed 05 Oct 1999

Topisomerases are cellular enzymes that are vital for replication of the genome. However, if topisomerase and DNA form covalent complexes that prevent the resealing of DNA, this may lead to cell death. Essentially, this invention consists of a new isolated and cloned enzyme, tyrosyl-DNA phosphodiesterase (TDP1), that is capable of hydrolyzing the covalent complexes between topisomerase and DNA, allowing the DNA to reseal. The mechanism that defines topisomerases is their capacity to break DNA and, after an interval in which topological changes may occur, to reseal the break without the intervention of a high energy cofactor. The breakage of the DNA is accompanied by the formation of a covalent bond between topisomerase and DNA to create an intermediate that is resolved during the resealing step. However, if the resealing step fails, the covalent intermediates between topisomerase I and DNA can become complexes that lead to cell death. The failure of the resealing is increased by some chemotherapies such as camptothecin. Thus, this technology has many potential commercial uses including: a method for screening camptothecin analogues or other compounds for their resistance to repair by this enzyme or to prescreen patients for their sensitivity to topisomerase inhibitors which could identify patients most likely to respond to camptothecin therapy. Further, this invention provides for a vector comprising of the nucleic acid molecule for TDP1 as well as the method of altering the level of TDP1 in a cell, a tissue, an organ or an organism. Finally, this invention consists of a method for identifying a compound that stabilizes a covalent bond complex that forms between DNA and topisomerase I, wherein the covalent bond cannot be cleaved.

Novel Vacuolar-Type (H+)-V-ATPase-Inhibitory Compounds, Compositions and Methods of Use

Michael R. Boyd (NCI)
Serial No. 60/122,953 filed 05 Mar 1999 and Serial No. 60/169,564 filed 08 Dec 1999

The present invention relates to a new class of vacuolar-type (H^+)-ATPase-inhibitory compounds. Vacuolar-type (H^+)-ATPases (V-ATPases) have been described as a universal proton pump which are present in many tissues and cells of the human body. Vacuolar-type (H^+)-ATPases are present intracellularly within certain organelles and are responsible for maintaining internal acidity thereof; V-ATPases are also located within specialized plasma membranes of certain cells, *e.g.* kidney intercated cells, osteoclasts and sperm cells. V-ATPases are important for a myriad of physiological functions such as: sorting of membrane and organellar proteins; proinsulin conversion; neurotransmitter uptake; receptor recycling; and cellular degradative processes. V-ATPase isoform-specific inhibitors may preferentially modulate V-ATPase activities in different cells and tissues, and may thereby provide diverse and distinctive pharmacological utilities. Accordingly, the disclosed compounds and compositions may be used to inhibit such biological processes as: intra-organellar acidification, urinary acidification; bone resorption; fertility;

tumor cell proliferation; and, drug resistance of tumor cells.

Dated: April 17, 2000.

Jack Spiegel,

Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.

[FR Doc. 00–10178 Filed 4–21–00; 8:45 am]

BILLING CODE 4140–01–P

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.

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ADDRESSES: Licensing information and copies of the U.S. patent applications listed below may be obtained by contacting Carol A. Salata, Ph.D., at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7735 ext. 232; fax: 301/402–0220; e-mail: cs253n@nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Molecular Clones With Mutated HIV GAG/POL and SIV Genes

George N Pavlakis (NCI)
Serial No. 60/173,036 filed 23 Dec 1999

The invention is a DNA construct which can be used as part of an HIV DNA vaccine or as a lentiviral vector to deliver heterologous DNA to cells. The advantage of lentiviral vectors, over retroviral vectors, is that they can transduce quiescent cells, such as terminally differentiated neurons. The advantage of the lentiviral vectors of the invention over the lentiviral vectors of the prior art are that they can be highly expressed in human or mammalian cells in the absence of any other regulatory or structural protein of HIV, including REV. The advantage of vectors based on SIV is that they are divergent from HIV–1.

The construct encodes the gag/pol region of the HIV–1 genome in which the instability regions (INS) have been removed by multiple point mutations, without changing the protein sequence. The INS are regions in the unspliced RNA which decrease the amount of expression from the RNA, a decrease which is overcome by the interaction of the HIV protein REV with the RRE (Rev Response Element) found on the RNA constructs encoding gag, pol and env of HIV–1. Under certain situations the construct can result in the formation of infectious viral particles which contain only gag and pol from HIV. These viral particles can be used as vaccines or for gene therapy.

Time-Gated Imaging With a Split-Beam Source

Ronald W. Waynant (FDA)
Serial No. 60/153,100 filed 09 Sep 1999

The present invention provides a new apparatus and methods for generating a split-beam electromagnetic source for imaging devices and methodologies. With this invention, one part of a split beam is used for generating an image of an object and another part of the split beam is used for timely capturing the generated image. The present invention offers many advantages over earlier technologies. For example: (1) switching with a short duration pulse allows for a fast time gate; (2) utilization of an electromagnetic pulse source to both image and time gate allows for easier and more precise synchronization of the time gate with the imaging source; and (3) optically switching the time gate solves the problem of jitter and inhomogeneous gating.

Identification of the Domain of Plasmodium falciparum Erythrocyte Membrane Protein (PfEMP1) that Mediates Adhesion to Chondroitin Sulfate A

Arthur Scherf *et al.* (NIAID)
Serial No. 60/152,023 filed 01 Sep 1999

Plasmodium falciparum malaria is more severe in pregnant women and causes disease in the mother and fetal death, even in those women who were previously immune. Severe malaria during pregnancy is more common during the first pregnancy (primigravida) and much less after multiple pregnancies (multigravid). Pregnant women are infected by parasites that sequester in the placenta and such sequestration contributes to growth retardation, infant mortality and severe anemia. Multigravid women develop antibodies that block the adhesion of infected erythrocytes to their placental receptor, chondroitin sulfate A (CSA). This interaction is mediated by specific var (PfEMP1) genes that bind to the host receptor CSA. The domain of the CSA-binding var gene that mediates adherence to CSA has been identified. This domain and potentially other parts of the molecule can give rise to development of anti malaria vaccines and therapeutics that will protect women from placental malaria, particularly during their first pregnancy.

Method for Generating NMR Relaxation Data and Identifying Ligands to Target Molecules From Multiple Field NMR Spectra

David Fushman, Nico Tjandra (NHLBI), David Cowburn
Serial No. 09/385,227 filed 27 Aug 1999

The present invention provides a nuclear magnetic resonance relaxation method of screening compounds for their ability to bind to target molecules and elicit site specific changes in the target molecule's structure. Specifically, this application pertains to a method of generating site specific nuclear relaxation data for target molecules and their ligands. These data can be used for exploration into the thermodynamic requirements of ligand binding, the calculation of structural constraints helpful in predicting the solution structure of a target molecule and its ligand complexes, and to design new ligands for target molecules.

Fast Displacement Encoding with Stimulated Magnetic Resonance Echoes by Sampling Both Components of a Stimulated Echo

Anthony H. Aletras, Han Wen (NHLBI)
Serial No. 60/147,314 filed 05 Aug 1999

The present invention provides a nuclear magnetic resonance method of phase contrast motion encoding. This methodology samples both the simulated-echo and the simulated-anti-echo by means of multiple 180 degree refocusing radiofrequency pulses. The pulses produced by the disclosed methods are compatible for reconstructing images without the need for elaborate data processing steps. By combining this method with pulses with unequal first order moments, dynamic range of motion measurements, in the heart, can be extended within the time period of a breath-hold in humans. Utilizing this powerful new methodology, a variety of diagnostic information can be learned about cardiac function in normal and diseased states.