2004 Apr 15;64(8):2898–2903. [PubMed: 15087409]

Patent Status: PCT Application No. PCT/US2008/10139 entitled "Diagnostic Tool for Diagnosing Benign Versus Malignant Thyroid Lesions" filed August 27, 2008 (HHS Reference No. E–326–2007/0–PCT–02).

Licensing Status: Available for licensing.

Licensing Contact: Whitney Hastings; 301–451–7337; *hastingw@mail.nih.gov.*

Collaborative Research Opportunity: The Center for Cancer Research, Surgery Branch, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize Diagnostic Tool for Diagnosing Benign Versus Malignant Thyroid Lesions. Please contact John D. Hewes, Ph.D. at 301–435–3121 or *hewesj@mail.nih.gov* for more information.

Imaging of Extracellular Proteases in Cells Using Mutant Anthrax Toxin Protective Antigens

Description of Invention: The claimed invention provides highly specific and sensitive methods for in vivo, in vitro, or ex vivo imaging of specific extracellular protease activity using an anthrax binary toxin system. The system targets cells that express extracellular proteases of interest. Such a system would be highly useful since various studies have demonstrated a positive correlation between the activity of extracellular proteases and various diseases and undesirable physiological conditions. For example, breakdown of the extracellular matrix by extracellular proteases is a prerequisite for the invasive growth of malignant cells, metastatic spread of tumors, and other pathological remodeling of tissue. In this case, methods are provided for the imaging of a specific extracellular protease by contacting a cell with: (1) A mutant anthrax toxin protective antigen (mPrAg) that binds to a cell surface receptor of a cell expressing an extracellular protease and is cleaved by a specific extracellular protease expressed by the cell and 2) a ligand that specifically binds to the cleaved mPrAg and is linked to a moiety that is detected by an imaging procedure, thereby forming a ligand-mPrAg complex that is translocated into the cell. The detectable moiety linked to the ligand in the ligand-mPrAg complex can be imaged before, during, or after translocation. Specific disease examples might include, but are not necessarily limited to, cancer, inflammation, and tumor progression or regression.

Inventors: Thomas H. Bugge *et al.* (NIDCR).

Patent Status: U.S. Patent Application No. 10/488,806 filed 04 Mar 2004 (HHS Reference No. E–295–2001/0–US–03).

Licensing Status: Available for licensing.

Licensing Contact: Whitney Hastings; 301–451–7337; *hastingw@mail.nih.gov.*

A Basal Cell Carcinoma Tumor Suppressor Gene

Description of Invention: Novel human nucleic acid sequences and polypeptides derived from the tumor suppressor, PTC or patched gene which have been mapped to human chromosome 9q22.3-q31, have been discovered for use in cancer diagnosis and therapy. Mutations of this gene are associated with Nevoid Basal Cell Carcinoma Syndrome (NBCCS) a disease associated with skin cancer and human developmental defects such as Gorlin Syndrome comprising skeletal defects, craniofacial and brain abnormalities. Methods of detection of PTC in a tissue sample have been found as well as recombinant cells, antibodies, and pharmacological compositions useful in treatment of the disease. Methods of diagnosis of and therapy for NBCCS have also been found. The PTC gene is thought to encode a protein which selectively switches off growth factor production in certain cells by interaction with members of the family of proteins encoded by the "hedgehog" gene, which instructs cells during development and growth. NBCCS is the result of abnormal PTC gene products that encode non-functional or functionally reduced NBCCS polypeptides. This lack of function may be caused by insertions, deletions, point mutations, splicing errors, premature termination codons, missing initiators, etc. The tumors caused by NBCCS are slow growing tumors that rarely metastasize, but which can cause significant morbidity and occasional mortality from local invasion. The PTC gene is also associated with medulloblastomas and trichoepitheliomas.

Newly discovered germline and sporadic mutations associated with NBCCS have been disclosed and claimed in the International (PCT) application.

Inventors: Michael C. Dean (NCI) *et al.*

Patent Status:

- U.S. Patent No. 6,552,181 issued 22 Apr 2003 (HHS Reference No. E–104–1996/1–US–01).
- U.S. Patent No. 7,317,086 issued 08 Jan 2008 (HHS Reference No. E–104–1996/1–US–02).
- Related international patents/patent applications.

Licensing Status: Available for licensing.

Licensing Contact: Whitney Hastings; 301–451–7337; *hastingw@mail.nih.gov.*

Dated: January 21, 2010.

Richard U. Rodriguez,

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

[FR Doc. 2010–1667 Filed 1–27–10; 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, HHS.

ACTION: Notice.

SUMMARY: The inventions listed below are owned by an agency 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 writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7057; fax: 301/402–0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

Signal-to-Noise Enhancement in Imaging Applications Using a Time-Series of Images

Description of Invention: The invention offered for licensing relates to the field of imaging and specifically to the field of medical imaging. The apparatus and method of the invention provide for noise reduction in imaging applications that use a time-series of images. In one embodiment of the invention, a time-series of images is acquired using a same imaging protocol of the same subject area, but the images are spaced in time by one or more time intervals (*e.g.* 1, 2, 3 * * * seconds apart). A sub-region is projected across

all of the images to perform a localized analysis (corresponding X–Y pixels or X–Y–Z voxels are analyzed across all images) that identifies temporal components within each sub-region. Subsequently, within the sub-regions, only those temporal components are selected whose amplitude is above a predetermined amplitude threshold. The images are then reconstructed using the sub-regions with reduced components. A maximal-intensity-projection (MIP) is applied in the temporal domain (tMIP) in order to obtain a single image with reduced noise (this can be done either at the sub-region level or at the reconstructed image level). The technology can be applied to a broad spectrum of medical imaging technologies such as MRI, X-Ray, CT and others.

Applications: Medical imaging and diagnostics applied to MRI, X-Ray, CT scans or other imaging modalities including PET, SPECT, ultrasound or optical.

Advantages: Enhancing signal-to-noise of medical imaging techniques.

Development Status:

• Proof of concept has been demonstrated. Data is available.

• Need to acquire further data to establish clinical utility of the method and to further optimize the protocol.

Market:

• According to market research reports the market for medical imaging equipment industry in the United States is approximately $9.0 billion dollars now and has been growing by approximately 7.6% annually.

• The United States market for computed tomography (CT) scanning systems is estimated to touch $3.6 billion by the end of 2009. The U.S. accounts for over 50.0% of the worldwide market.

• Worldwide MRI equipment market is estimated to reach $5.5 billion by 2010, according to new report by Global Industry Analysts, Inc. (*http://www.strategyr.com/Magnetic_Resonance_Imaging_MRI_Equipment_Market_Report.asp*). In the United States the market for such equipment is estimated at $1.9 billion for 2008, as stated the same report. The very high-field MRI systems market in the United States is projected to reach $968 million by the year 2010. Very High-Field Systems also represent the fastest growing segment, as hospitals and clinics upgrade old equipment with state-of-the-art systems.

• Enhancements in imaging technologies to achieve better image clarity, reliability and speed are being constantly pursued by medical imaging companies. Technologies that offer such improvements therefore present excellent commercial potential. Thus the subject invention which can be applied in a broad spectrum of imaging technologies offers such good commercial potential.

Inventors: Han Wen and Vinay Pai (NHLBI).

Relevant Articles:

1. Fish DA, Grochmalicki J, Pike ER. Scanning singular-value-decomposition method for restoration of images with space-variant blur. J Opt Soc Am A, 13(3), pp. 464–469, March 1996.

2. Du X, Dunxu Y, Cuihua L, Jing L. "A novel approach to SVD-based image filtering improvement," International Conference on Computer Science and Software Engineering, vol 6, pp. 133–136, 2008.

Patent Status: U.S. Provisional Application No. 61/266,442 filed December 3, 2009, entitled "Signal-to-Noise Enhancement in Imaging Applications Using a Time-Series of Images" (HHS Reference No. E–292–2009/0–US–01).

Related Technologies: Image denoising techniques such as singular value decomposition (SVD).

Licensing Status: Available for licensing.

Licensing Contacts: Uri Reichman, Ph.D., MBA; 301–435–4616; *UR7a@nih.gov;* or John Stansberry, Ph.D.; 301–435–5236; *stansbej@mail.nih.gov.*

Collaborative Research Opportunity: The National Heart, Lung, and Blood Institute is seeking statements of capability or interest from parties interested in collaborative research to implement the technology described above on specific commercial platforms. Please contact Denise Crooks, Ph.D. at 301–435–0103 or via e-mail at *crooksd@nhlbi.nih.gov* for more information.

Method for the Treatment of HIV/AIDS Infection Using Acyclovir in Identified Subjects

Description of Invention: The invention provides the novel method to treat HIV infections with acyclovir which can be converted to acyclovir triphosphate inside infected cells. Acyclovir or acyclovir-related drugs were previously approved for control of herpesvirus replication with 20 years of records of safe application. The subject invention demonstrates that acyclovir triphosphate can inhibit HIV–1 reverse transcriptase as a potent suppressor of HIV–1 replication in human lymphoid tissues. In addition, the subject invention may be attractive to potential licensees, as there is little to no FDA hurdle to overcome in the development of the new formulations to use in this manner. Thus, the low cost and proven safety of acyclovir may lead to a new medicine for treating HIV–1 infections and a prophylactic agent for preventing HIV infections.

Applications: The treatment and prevention of HIV infections.

Development Status: In vitro data available.

Inventors: Leonid B. Margolis, Andrea Lisco, Christophe Vanpouille, Jean-Charles Grivel (NICHD).

Related Publications:

1. A Lisco *et al.* Acyclovir is activated into a HIV–1 reverse transcriptase inhibitor in herpesvirus-infected human tissues. Cell Host Microbe. 2008 Sep 11;4(3):260–270. [PubMed: 18779052]

2. N Nagot *et al.* Reduction of HIV–1 RNA levels with therapy to suppress herpes simplex virus. New Engl J Med. 2007 Feb 22;356(8):790–799. [PubMed: 17314338]

Patent Status: PCT Application No. PCT/US2008/010316 filed 30 Aug 2008, which published as WO 2009/032244 on 12 Mar 2009 (HHS Reference No. E–306–2007/0–PCT–02).

Licensing Status: Available for licensing.

Licensing Contact: Sally Hu, Ph.D.; 301/435–5606; *HuS@mail.nih.gov.*

Collaborative Research Opportunity: The *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, Program in Physical Biology, Section on Intracellular Interactions, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize this technology. Please contact Joseph Conrad, Ph.D., J.D. at 301–435–3107 or *jmconrad@mail.nih.gov* for more information.

Dated: January 21, 2010.

Richard U. Rodriguez,

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

[FR Doc. 2010–1669 Filed 1–27–10; 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, HHS.

ACTION: Notice.

SUMMARY: The inventions listed below are owned by an agency of the U.S.