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

• Related international patents/patent applications.

Licensing Status: Available for licensing.  
Licensing Contact: Whitney Hastings; 301–451–7337; hastingw@mail.nih.gov.

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

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BILING 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](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).

Related Articles:


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; UR7@a mail.nih.gov; or John Stansberry, Ph.D.; 301–435–5236; stansbe@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 crooksdl@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 (NICHID).

Related Publications:


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.


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

BILING 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.