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.

Papilloma Pseudovirus for Detection and Therapy of Tumors

Description of Technology: There is extensive literature on the use of viral vectors, particularly those based on the adenovirus and AAV, to increase the potency of anti-tumor gene therapy. However, these approaches have had limited success because of limited anti-tumor effects and unacceptable toxicity. This invention describes the use of papillomavirus pseudoviruses (PsV) as a gene transfer technology and a tumor diagnostic method. Preliminary studies showed that PsV bind to cells that were transplanted with human ovarian tumor (Shin-3) while normal tissues were not affected. PsV does not infect several other normal intact tissues but continues to selectively infect additional cell types that are damaged. Additionally, the inventors have constructed oligoT PsV vectors that can be engineered to express certain cytotoxic genes to induce tumor regression and simultaneously increase human papilloma virus' immunogenicity. This technology could be an effective anti-tumor therapy because it has shown increased infection of compromised cells with an inability to infect normal cells thereby reducing potential toxicity to patients. In addition to a potential anti-cancer therapeutic, this technology could also be used as a diagnostic tool in the detection of tumor masses. Detection can be achieved through the use of fluorescent dye coupled particles of PsV that have preferential binding to tumor tissues and not normal tissues.

Applications:

Method to treat and selectively target cancer with limited toxicity.

Method to accurately diagnose cancer.

Anti-tumor therapeutic vaccines.

Anti-tumor cytoxic gene therapy constructs.

Market:

An estimated 1,444,920 new cancer cases in 2007.

600,000 cancer deaths in the U.S. in 2006.

It is estimated that market for cancer drugs would double to $50 billion a year in 2010 from $25 billion in 2006.

Development Status: The technology is currently in the pre-clinical stage of development.

Inventors: Jeffrey Roberts, John T. Schiller, Douglas R. Lowy (NCI).

Publications:

1. CB Buck *et al.* Generation of HPV pseudovirions using transfection and their use in neutralization assays. Methods Mol Med. 2005; 119:445–462.

2. CB Buck *et al.* Efficient intracellular assembly of papillomaviral vectors. J Virol. 2004 Jan; 78(2):751–757.

Patent Status: U.S. Provisional Application No. 60/928,495 filed 08 May 2007 (HHS Reference No. E–186–2007/0–US–01).

Licensing Status: Available for exclusive or non-exclusive licensing.

Licensing Contact: Jennifer Wong; 301/435–4633; *wongje@mail.nih.gov*.

Collagen-Induced Platelet Aggregation Inhibitor From Mosquito Salivary Glands

Description of Technology: Exposed collagen in injured blood vessels provides a substrate for platelets to adhere and aggregate initiating the first step in thrombosis, the formation of blood clots inside a blood vessel. Despite the essential role of platelets in vascular injury, excessive platelet aggregation may also result in thrombotic diseases such as stroke and heart attack.

Available for licensing is a collagen binding protein, named aegyptin, which selectively inhibits collagen-platelet aggregation, but not platelet aggregation induced by other agonists. Collagen initiates recruitment of circulating platelets and triggers platelet activation. Collagen also plays a critical role in angiogenesis. Aegyptin blocks the interaction of collagen with its major ligands, von Willebrand factor, glycoprotein VI (GPVI), and integrin a2β1. These three ligands are of particular importance because von Willebrand factor plays a critical role in tethering platelets to collagen, GPVI is the major signaling platelet receptor, and integrin a2β1 mediates platelet adhesion and contributes to activation. Since these ligands play a critical role in the early stages of thrombus formation, aegyptin represents a potentially highly effective therapeutic that can prevent and treat patients with thrombotic disease. Alternatively, aegyptin is potentially useful in conditions where collagen plays a critical role in angiogenesis or in conditions where excessive deposition of collagen plays a pathological role (e.g. pancreatic carcinoma).

Applications:

Adjuvant to ''Clot busting'' therapeutics.

Method to prevent and/or treat cardiovascular/thrombotic disease.

Method to treat patients undergoing invasive cardiovascular procedures (e.g. angioplasty).

Model to study collagen-dependent platelet aggregation or collagen-mediated angiogenesis.

Advantages:

Highly effective therapeutics can negatively modulate thrombosis in its early stages by preventing collagen interaction with three major ligands involved in thrombus/clot formation.

Aegyptin's potential use as a prototype for drug delivery as an oral therapeutic, which can reduce the need for invasive surgeries that dilate blood vessels such as stents or catheters.

Market:

Thrombolytic/antithrombotic therapies are worth billions of dollars, common therapeutics include heparin, warfarin, and plasminogen activators.

Anticancer and antiangiogenic therapies.

Cardiac disease is the number one cause of death in the U.S.

Pancreatic cancer is one of the most lethal cancers, where only 23% of patients will survive after one year of diagnosis, and 4% survive after five years of diagnosis.

An estimated 37,170 Americans will be newly diagnosed with pancreatic cancer in 2007.

An estimated 33,370 deaths from pancreatic cancer in the U.S. in 2007.

Pancreatic cancer is the fourth leading cause of cancer death in the U.S.

Development Status: The technology is currently in the pre-clinical stage of development.

Inventors: Eric Calvo *et al.* (NIAID).

Related Publications:

1. A manuscript directly related to this technology will be available as soon as it is accepted for publication.

2. E Calvo. Collagen-platelet aggregation inhibitor from mosquito salivary glands. Biacore T100 seminar series, November 2006, St. Louis, Missouri.

3. S Yoshida and H Watanabe. Robust salivary gland-specific transgene expression in *Anopheles stephensi* mosquito. Insect Mol Biol. 2006 Aug; 15(4):403–410.

4. D Sun *et al.* Expression of functional recombinant mosquito salivary apyrase: a potential therapeutic platelet aggregation inhibitor. Platelets. 2006 May; 17(3):178–184.

Patent Status: U.S. Provisional Application No. 60/198,629 filed 09 Jul 2007 (HHS Reference No. E–172–2007/0–US–01); U.S. Provisional Application No. 60/982,241 filed 24 Oct 2007 (HHS Reference No. E–172–2007/1–US–01)

Licensing Status: Available for exclusive or non-exclusive licensing.

Licensing Contact: Jennifer Wong; 301/435–4633; wongje@mail.nih.gov

Collaborative Research Opportunity: The National Institute of Allergy and Infectious Diseases, Laboratory of Malaria and Vector Research, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the platelet aggregation inhibitor Aegyptin. Please contact Dr. Jose Ribeiro, Head, Vector Biology Section, at 301–496–9389 or *jribeiro@niaid.nih.gov* for more information.

Manganese Superoxide Dimutase VAL16ALA Polymorphism Predicts Resistance to Doxorubicin Cancer Therapy

Description of Technology: Cancer is the second leading cause of death in the United States and it is estimated that there will be approximately 600,000 deaths caused by cancer in 2006. Major drawbacks of the existing cancer therapies are the interindividual differences in the response and the cytotoxic side-effects that are associated with them. Thus, there is a need to develop new therapeutic approaches to optimize treatment and increase patient survival.

This technology describes the identification of a manganese superoxide dismutase (MnSOD) polymorphism as a novel biomarker for the prognosis of doxorubicin therapeutic response in breast cancer patients, wherein a Val16Ala polymorphism of MnSOD is indicative of patient survival. More specifically, patients undergoing doxorubicin combination therapy with Val/Val, Val/Ala, and Ala/Ala genotypes had 95.2%, 79%, and 45.5% survival rates, respectively, in a case study of 70 unselected breast cancer patients. Carriers of the Ala/Ala genotype had a highly significantly poorer breast cancer-specific survival in a multivariate Cox regression analysis than carriers of the Val/Val genotype. This technology can be developed into an assay to screen for breast cancer patients who will be responsive to doxorubicin treatment. Further, as the MnSOD polymorphism is common in the population (15% to 20% of patients have the Ala/Ala genotype), it is a common risk factor for doxorubicin therapy. This technology can potentially be utilized as a screening tool applicable for all cancer types treated with doxorubicin.

Applications:

A novel genetic marker that can predict breast cancer patient survival with doxorubicin treatment.

A screening test based on MnSOD Val16Ala genotype that predicts patient response to doxorubicin cancer therapy, wherein treatment can be subsequently individualized according to patient MnSOD genotype.

Development Status: Future studies include determining the mechanism in which the polymorphism modulates doxorubicin toxicity.

Inventors: Stefan Ambs and Brenda Boersma (NCI).

Patent Status: U.S. Provisional Application No. 60/799,788 filed 11 May 2006 (HHS Reference No. E–137–2006/0–US–01); PCT Application No. PCT/US2007/068588 filed 09 May 2007 (HHS Reference No. E–137–2006/0–PCT–02).

Licensing Status: Available for non-exclusive or exclusive licensing.

Licensing Contact: Jennifer Wong; 301/435–4633; *wongje@mail.nih.gov*.

Collaborative Research Opportunity: The Laboratory of Human Carcinogenesis, Center for Cancer Research, National Cancer Institute, National Institutes of Health, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize MnSOD genotyping assays to assess a patient's response to doxorubicin combination therapy. Please contact John D. Hewes, PhD, at 301–435–3121 or *hewesj@mail.nih.gov* for more information.

Dated: February 15, 2008.

David Sadowski,

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

[FR Doc. E8–3274 Filed 2–21–08; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Cancer Institute; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Cancer Institute Initial Review Group, Subcommittee A — Cancer Centers.

Date: April 22–23, 2008.

Time: 8 a.m. to 2:30 p.m.

Agenda: To review and evaluate grant applications.

Place: Crown Plaza Silver Spring, 8777 Georgia Avenue, Silver Spring, MD 20910.

Contact Person: Gail J. Bryant, MD, Scientific Review Officer, Resources and Training Review Branch, Division of Extramural Activities, National Cancer Institute, 6116 Executive Blvd, Room 8107, MSC 8328, Bethesda, MD 20892–8329, (301) 402–0801, *gb30t@nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.392, Cancer Construction; 93.393, Cancer Cause and Prevention Research; 93.394, Cancer Detection and Diagnosis Research; 93.395, Cancer Treatment Research; 93.396, Cancer Biology Research; 93.397, Cancer Centers Support; 93.398, Cancer Research Manpower; 93.399, Cancer Control, National Institutes of Health, HHS)

Dated: February 14, 2008.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 08–794 Filed 2–21–08; 8:45 am]

BILLING CODE 4140–01–M