

compliance with the Hill-Burton uncompensated services assurance and administers construction grant programs under section 1610(b) of the Public Health Service Act, under the Health Care and Other Facilities (HCOF) program, and under the Patient Protection and Affordable Care Act, Public Law 111-148. Specifically, the Division: (1) Administers the process for awarding new construction and equipment grants, under section 1610(b), the HCOF, and the PPACA programs, including ensuring the delivery of comprehensive architectural and engineering services and ensuring compliance with historic preservation and other laws and regulations related to construction projects, maintains a computerized database of key project information, and provides technical assistance in application preparation to potential grantees under Division grant programs; (2) monitors grant projects during construction to assure compliance with the terms of the award, reviews requests for changes in scope to grant projects, and obtains information needed to close out completed grant projects; (3) establishes, develops, monitors, and enforces the implementation of Hill-Burton regulations, policies, procedures, and guidelines for use by staff and health care facilities; (4) maintains a system for receipt, analysis and disposition of audit appeals by Hill-Burton obligated facilities and for receiving and responding to patient complaints; (5) manages the recovery or waiver of recovery of Federal grant funds process for Titles VI and XVI; (6) manages the national Hill-Burton Hotline to ensure that consumers receive timely and accurate information on the program; and (7) provides architectural and engineering services to other Agencies such as the Administration for Children and Families and the Food and Drug Administration.

Division of Vaccine Injury Compensation (RR4)

This Division of Vaccine Injury Compensation (DVIC) administers all statutory authorities related to the operation of the National Vaccine Injury Compensation Program (VICP) by the: (1) Evaluation of petitions for compensation filed under the VICP through medical review and assessment of compensability for all complete claims; (2) processing of awards for compensation made under the VICP; (3) promulgation of regulations to revise the Vaccine Injury Table; (4) provision of professional and administrative support to the Advisory Commission on Childhood Vaccines (ACCV); (5)

development and maintenance of all automated information systems necessary for program implementation; (6) provision and dissemination of program information; and (7) contributes to the understanding of vaccine-related adverse events through the analysis of VICP claims. The VICP maintains a working relationship with other relevant Federal and private sector partners in its administration and operation.

Office of Pharmacy Affairs (RR7)

The Office of Pharmacy Affairs (OPA) promotes access to clinical and cost effective pharmacy services to enable participating entities to stretch scarce Federal resources in order to serve more patients, expand their services or offer additional services. Specifically the office: (1) Manages the 340B involvement of pharmaceutical manufacturers that participate in the Medicaid program, through Pharmaceutical Pricing Agreements; (2) maintains a publicly accessible database of participating covered entities, sites, and contract pharmacies; (3) publishes guidelines/regulations to assist in the understanding and participation in the 340B Program; (4) maintains a Prime Vendor Program to increase the value of the 340B Program; (5) maintains the Pharmacy Services Support Center to assist OPA and the diverse Program stakeholders to understand and make best use of the 340B Program; (6) fosters mutually productive relationships with Federal and private sector partners; (7) provides a national platform for the coordination and development of leading practices for pharmacy services; (8) promotes comprehensive and efficient pharmacy management application and systems use to ensure safe and effective medication use; and (9) manages quality improvement activities such as the Patient Safety and Clinical Pharmacy Services Collaborative.

Section RR-30, Delegations of Authority

All delegations of authority and re-delegations of authority made to HRSA officials that were in effect immediately prior to this reorganization, and that are consistent with this reorganization, shall continue in effect pending further re-delegation.

This reorganization is upon date of signature.

Dated: March 28, 2011.

Mary K. Wakefield,
Administrator.

[FR Doc. 2011-7781 Filed 4-1-11; 8:45 am]

BILLING CODE 4165-15-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.

New Molecules for HIV Therapeutics: Fab, scFv, and Related Binding Molecules Specific for HIV-1 Rev

Description of Invention: The invention offered for licensing and commercial development is in the field of HIV therapeutics. More specifically, the invention relates to methods and compositions for treating and/or inhibiting HIV infection or any other lentivirus. The invention describes the identification, though phage display, of a chimeric rabbit/human anti-Rev Fab (SJS-R1) that can inhibit polymerization of the HIV Rev protein and thus inhibit its normal function in virus replication. The Fab binds with very high affinity to a conformational epitope in the N-terminal half of HIV-1 Rev. The corresponding single chain antibody (scFv) was also prepared and characterized. Methods of making and using SJS-R1 Fab and SJS-R1 scFv, and antibodies and antibody fragments that share at least one CDR with SJS-R1 Fab, are provided. Specific described methods include methods of preventing or reversing polymerization of HIV Rev, methods of reducing infectivity of replication of a lentivirus, inhibiting Rev function in a cell infected with a lentivirus, and methods of treating a

disease or symptom associated with Rev expression in an animal.

Applications: HIV therapeutics.

Advantages

- The invention utilizes a novel target and thus can be effective in conjunction with other HIV drugs.
- The chimeric structure of the Fab makes it possible to produce it in rabbit in high yields while being readily applicable for human treatment.

Development Status: The therapeutic molecules have been produced and their strong affinity to Rev and its inhibitory effect on HIV proliferation was demonstrated.

Inventors: Stephen J. Stahl (NIAMS) *et al.*

Patent Status: U.S. Provisional Application No. 61/439,307 filed February 3, 2011 (HHS Reference No. E-064-2011/0-US-01), entitled "Generation and Use of Fab, scFv, and Related Binding Molecules Specific for HIV-1 Rev."

Related Publications

1. Stahl SJ, Watts NR, Rader C, DiMattia MA, Mage RG, Palmer I, Kaufman JD, Grimes JM, Stuart DI, Steven AC, Wingfield PT. Generation and characterization of a chimeric rabbit/human Fab for co-crystallization of HIV-1 Rev. *J Mol Biol.* 2010 Apr 2;397(3):697-708. [PubMed: 20138059]

2. DiMattia MA, Watts NR, Stahl SJ, Rader C, Wingfield PT, Stuart DI, Steven AC, Grimes JM. Implications of the HIV-1 Rev dimer structure at 3.2 Å resolution for binding to the Rev response element. *Proc Natl Acad Sci U S A.* 2010 Mar 30;107(13):5810-5814. [PubMed: 20231488]

Licensing Status: Available for licensing and commercial development.

Licensing Contacts

- Uri Reichman, PhD, MBA; 301-435-4616; UR7a@nih.gov.
- John Stansberry, PhD; 301-435-5236; js852e@nih.gov.

Collaborative Research Opportunity: The National Institute of Arthritis and Musculoskeletal and Skin Diseases, Protein Expression Laboratory is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the technology. Please contact Cecilia Pazman, PhD at 301-402-5579 for more information.

Modulation of Leucine-Rich Repeats and Calponin Homology Domain-Containing Protein 4 (Lrch4) Activity for Therapeutic Applications

Description of Invention: NIH Inventors have recently discovered a

novel Leucine-rich repeat and calponin homology domain-containing protein 4 (Lrch4) in a proteomic screen of the plasma membrane of lipopolysaccharide (LPS)-exposed macrophages. Expression data by RT-PCR revealed that all Lrch family members (1-4) are expressed in macrophages, but only Lrch4 was recruited into lipid rafts (signaling microdomains of the plasma membrane) by LPS. Lrch4 is the most highly expressed Lrch family member in mouse tissues. It is a predicted single-spanning transmembrane protein that is encoded by the Lrch4 gene in humans. The Lrch4 ectodomain is predicted to have a series of leucine-rich repeats, the motifs by which Toll like Receptors (TLR) are thought to bind microbial ligands. The human form of Lrch4 is 83% identical to murine Lrch4 and is predicted to have 680 amino acids and a molecular weight of 73 kDa.

NIH inventors have shown that Lrch4 is expressed on the plasma membrane of macrophages. They have determined that Lrch4 regulates pro-inflammatory signals (NF- κ B activation, cytokine induction) emanating from all TLRs tested, and also regulates ligand-independent signals from MyD88. Further, LPS-induced p38, JNK, and NF κ B activation are attenuated following Lrch4 knockdown, indicating that Lrch4 regulates upstream LPS signaling events. LPS-induced expression of the NF- κ B-dependent cytokine TNF α was attenuated following Lrch4 knockdown at the level of both transcript and protein. Based on these and other findings, the inventors of this technology propose that Lrch4 may be a novel component of TLR receptor complexes and that modulation of Lrch4 activity might open up new opportunities for developing novel therapeutics for inflammatory diseases.

Applications: Identification and development of modulators of Lrch4 activity to treat inflammatory disorders, cancer, and sepsis.

Development Status: Early-stage.

Inventors: Michael B. Fessler, *et al.* (NIEHS).

Related Publication: Dhungana S *et al.* Quantitative proteomics analysis of macrophage rafts reveals compartmentalized activation of the proteasome and of proteasome-mediated ERK activation in response to lipopolysaccharide. *Mol Cell Proteomics* 2009 Jan; 8(1):201-213. [PubMed: 18815123]

Patent Status: U.S. Provisional Application No. 61/433,491 filed 17 January 2011 (HHS Reference No. E-012-2011/0-US-01).

Licensing Status: Available for licensing.

Licensing Contact: Suryanarayana Vepa, PhD, J.D.; 301-435-5020; vepas@mail.nih.gov.

Collaborative Research Opportunity: The National Institute of Environmental Health Sciences (NIEHS) Laboratory of Respiratory Biology is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize Lrch4. Please contact Dr. Elizabeth M. Denholm at denholme@niehs.nih.gov for more information.

Superparamagnetic Nanocomplexes and Their Use as Contrast Agents in MRI

Description of Invention: The invention offered for licensing and commercial development relates to the fields of cell therapy and tracking of such therapy by magnetic resonance imaging. More specifically the technology describes novel superparamagnetic magnetic resonance contrast agents, methods of making the agents, and methods of labeling cells with the contrast agents and imaging the labeled cells using magnetic resonance.

The self assembled agents are composed of three (3) components: Superparamagnetic iron oxide nanoparticle (*e.g.* F₃O₄), associated with a carbohydrate coating (*e.g.*, a polycation (*e.g.*, Protamine Sulfate); and a polycation (*e.g.*, glycosaminoglycan:Heparin). Self-assembling superparamagnetic nanocomplexes made from simple commercially available chemicals such as Heparin sulfate (H), Protamine sulfate (P), and Ferumoxytol nanocomplexes (HPF nanocomplexes) can effectively label stem cells, immune cells, tumor cells, or any other therapeutically engineered cells for cellular MRI. Biological cells can be labeled with the nanocomplexes by contacting cells under conditions sufficient to produce the nanocomplexes, or by contacting the cells with pre-assembled nanocomplexes. The labeled biological cells can be transplanted into an individual, imaged by MRI and the migration pattern and/or cellular distribution pattern of the labeled biological cells in the subject can then be detected. This technique will readily facilitate the tracking of the therapeutic cells, and thus render cell-based therapy and/or tissue repair more precise, accurate and effective.

Applications

- Clinical—
 - Cell-based therapy (*e.g.* stem cells, or immune cells therapy, genetic engineered cells); monitoring and

detecting cell trafficking and distribution.

- Diagnostics.
- Research—
- Cell-based therapy.
- Tissue regeneration.

Advantages

- Avoid radioactive labeling.
- More efficient cell incorporation than the use of noncomplexed paramagnetic or superparamagnetic particles.
- Non toxic.
- Easily prepared from three (3) commercially available FDA approved drugs off label. No synthesis is required (self assembled).
- No FDA approved MRI contrast agent containing paramagnetic or superparamagnetic iron oxide nanoparticles.

Development Status

- The labeling complex has been repeatedly prepared. May require some further optimization for specific cell products and scale up.
- Incorporation into mammal cells has been demonstrated.

Market: The total U.S. market for imaging reagents was \$2.8 billion in 2003 and is expected to grow to \$4.5 billion by 2010 at an average annual growth rate of 6.9%. Sales of MRI reagents for cardiovascular applications were \$770 million in 2003 and are expected to rise at an average annual growth rate of 7.0%. Reagents used in oncology and gastrointestinal tract are rising at average annual growth rates of 7.0% and 5.1%, respectively. The subject technology maybe readily applied in both diagnostics and therapeutic fields. A commercial development of the subject technology may therefore be attractive for commercial organizations.

Inventors: Joseph A. Frank *et al.* (CC).

Patent Status: U.S. Provisional Application No. 61/439,106 filed February 3, 2011 (HHS Reference No. E-285-2010/0-US-01), entitled "Superparamagnetic Nanocomplexes, Articles, and Methods of Use Thereof".

Relevant Publications

1. Frank JA, Anderson SA, Kalsih H, Lewis BK, Yocum GT, Arbab AS. Methods for magnetically labeling stem and other cells for detection by in vivo magnetic resonance imaging. *Cytotherapy*. 2004; 6(6):621-625. [PubMed: 15773025]

2. Arbab AS, Liu W, Frank JA. Cellular magnetic resonance imaging: current status and future prospects. *Expert Rev Med Devices*. 2006 Jul;3(4):427-439. [PubMed: 16866640]

Licensing Status: Available for licensing and commercial development.

Licensing Contacts

- Uri Reichman, PhD, MBA; 301-435-4616; UR7a@nih.gov.
- John Stansberry, PhD; 301-435-5236; js852e@nih.gov.

Collaborative Research Opportunity: The Clinical Center, Frank Laboratory, Radiology and Imaging Sciences, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize this technology. Please contact Joseph A. Frank MS MD at 301-402-4314 or jafrank@helix.nih.gov for more information.

Methods of Treating Age-Related Macular Degeneration

Description of Invention: Available for licensing is a novel method of treating age related macular degeneration (AMD). AMD is the leading cause of irreversible blindness in elderly populations worldwide. Inflammation, among other factors, has been suggested to play an important role in AMD pathogenesis. Recent studies have demonstrated a link between the complement system, inflammation, and AMD pathogenesis. Notably, researchers at NEI have shown that certain members of the C5a pathway are increased in AMD patients, and *in vitro* experiments demonstrated that those same pathway members cause a decrease in retinal pigment epithelium (RPE) viability, a hallmark of AMD. Blocking the C5a pathway presents a promising approach to prevent and treat AMD.

Application: Prevention and/or treatment of Age-related Macular Degeneration.

Development Status: *In vivo* mouse studies are in progress to test the effectiveness of the treatment.

Market: Age-related macular degeneration is a leading cause of severe, irreversible vision impairment in developed countries (<http://geteyesmart.org/eyesmart/diseases/amd.cfm>). It is estimated that 1.8 million Americans 40 years and older are affected by AMD and an additional 7.3 million with large drusen (yellow or white deposits under the retina) are at substantial risk of developing AMD. The number of people with AMD is estimated to reach 2.95 million in 2020. AMD is the leading cause of permanent impairment of reading and fine or close-up vision among people aged 65 years and older (http://www.cdc.gov/visionhealth/basic_information/eye_disorders.htm).

Inventors: Robert B. Nussenblatt *et al.* (NEI).

Patent Status: U.S. Provisional Application No. 61/429,580 filed 04 Jan 2011 (HHS Reference No. E-099-2010/0-US-01).

Licensing Status: Available for licensing.

Licensing Contact: Jaime M. Greene, M.S.; 301-435-5559; greenejaime@mail.nih.gov.

Methods for Inhibiting Proinflammatory Cytokine Expression Using Ghrelin

Description of Invention: Ghrelin, an endogenous ligand for growth hormone secretagogue receptors (GHS-R), is primarily produced by the stomach but also by many other organs systems in the body (including the immune system) serves as a potent circulating orexin controlling energy expenditure, adiposity and GH secretion. We have discovered that ghrelin exerts anti-inflammatory effects via inhibiting the secretion of both acute and chronic cytokines including IL-1, IL-6, TNF-alpha, IFN-gamma, IL-12 p40, IL-17, various chemokines and CSFs *in vitro* in human and murine cells as well as *in vivo* in murine models of sepsis, inflammation and aging. We also found that ghrelin directly controls human growth hormone and insulin growth factor expression by human immune cells.

Applications: This invention is useful for treatment of various inflammatory disorders including inflammatory bowel disease, Crohn's disease, rheumatoid arthritis, multiple sclerosis, atherosclerosis, endotoxemia and graft-versus-host disease.

Inventors: Vishwa D. Dixit and Dennis D. Taub (NIA).

Relevant Publications

1. Dixit VD, Schaffer EM, Pyle RS, Collins GD, Sakthivel SK, Palaniappan R, Lillard JW Jr, Taub DD. Ghrelin inhibits leptin- and activation-induced proinflammatory cytokine expression by human monocytes and T cells. *J Clin Invest*. 2004 Jul; 114(1):57-66. [PubMed: 15232612] Note: Article highlighted in this issue of JCI. This was also the subject of a *Science SAGE KE News Focus* article—M Leslie. Opposites Detract. *Sci Aging Knowl Environ*. 2004 Jul 14; 28:nf65 [doi: 10.1126/sageke.2004.28.nf65].

2. Dixit VD, Weeraratna AT, Yang H, Bertak D, Cooper-Jenkins A, Riggins GJ, Eberhart CG, Taub DD. Ghrelin and the growth hormone secretagogue receptor constitute a novel autocrine pathway in astrocytoma motility. *J Biol Chem*. 2006

Jun 16; 281(24):16681–16690. [PubMed: 16527811]

3. Dixit VD, Yang H, Sun Y, Weeraratna AT, Smith RG, Taub DD. Ghrelin promotes thymopoiesis during aging. *J Clin Invest.* 2007 Oct; 117(10):2778–2790. [PubMed: 17823656] Note: Article highlighted in this issue of JCI.

4. Yang H, Dixit VD, Patel K, Vandanmagsar B, Collins G, Sun Y, Smith RG, Taub DD. Reduction in hypophyseal growth hormone and prolactin expression due to deficiency in ghrelin receptor signaling is associated with Pit-1 suppression: relevance to the immune system. *Blood Behav Immun.* 2008 Nov; 22(8):1138–1145. [PubMed: 18602461]

5. Dixit VD, Yang H, Cooper-Jenkins A, Giri BB, Patel K, Taub DD. Reduction of T cell-derived ghrelin enhances proinflammatory cytokine expression: implications for age-associated increases in inflammation. *Blood.* 2009 May 21; 113(21):5202–5205. [PubMed: 19324904]

Relevant Reviews

6. Dixit V and Taub DD. Ghrelin and immunity: a young player in an old field. *Exp. Gerontol.* 2005 Nov; 40(11):900–910. [PubMed: 16233968]

7. Taub DD. Novel connections between the neuroendocrine and immune systems: the ghrelin immunoregulatory network. *Vitam Horm.* 2008; 77:325–346. [PubMed: 17983863]

8. Taub DD. Neuroendocrine interactions in the immune system. *Cell Immunol.* 2008 Mar–Apr; 252(1–2):1–6. [PubMed: 18619587] Note: Image from article used on the cover of this issue.

9. Redelman D, Welniak LA, Taub D, Murphy WJ. Neuroendocrine hormones such as growth hormone (GH) and prolactin (PRL) are integral members of the immunological cytokine network. *Cell Immunol.* 2008 Mar–Apr; 252(1–2):111–121. [PubMed: 18313040]

10. Patel K and Taub DD. Role of neuropeptides, hormones, and growth factors in regulating thymopoiesis in middle to old age. *F1000 Biol Rep.* 2009 May 28; 1. pii: 42. [PubMed: 20948643]

11. Taub DD, Murphy WJ, Longo DL. Rejuvenation of the aging thymus: growth hormone-mediated and ghrelin-mediated signaling pathways. *Curr Opin Pharmacol.* 2010 Aug; 10(4):408–424. [PubMed: 20595009]

Patent Status: U.S. Patent Application No. 11/596,310 filed 06 Jun 2008 (HHS Reference No. E–016–2004/0–US–07) and related international applications.

Licensing Status: Available for licensing.

Licensing Contact: Sally H. Hu, PhD, M.B.A.; 301–435–5606; hus@mail.nih.gov.

Collaborative Research Opportunity: The National Institute on Aging is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize Methods of Inhibiting Proinflammatory Cytokine Expression Using Ghrelin. Please contact Nikki Guyton at 301–435–3101 or guytonn@mail.nih.gov for more information.

Dated: March 29, 2011.

Richard U. Rodriguez,

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

[FR Doc. 2011–7925 Filed 4–1–11; 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.

Diagnostic and Prognostic Serum Biomarkers for Cancer Patients Treated With Cancer Vaccines

Description of Technology: Although antibodies are a critical element of the immune response, the role of antibody responses in cancer vaccines is still unknown. Carbohydrate antigens, which are directly or indirectly involved in

most types of cancer vaccines, are a class of antigens that has been largely understudied but play a significant role in the immune response of cancer vaccines.

This invention involves the identification of serum biomarkers for cancer that target carbohydrate antigens. The biomarkers are specific sub-populations of serum antibodies present in the serum of patients that bind to various glycan and/or glycoprotein antigens, such as the Forssman antigen.

The biomarkers are useful for (a) predicting a patient's immune responses to a cancer vaccine, (b) measuring the efficacy of a cancer vaccine, and (c) determining the prognosis and long-term survival of cancer patients.

Applications:

- Diagnostic and prognostic test to monitor the progression and long-term survival of cancer patients.

- Predictive indicator of cancer patients' immune response to a cancer vaccine.

- Indicator to monitor the efficacy of a cancer vaccine.

Advantages: The technology is backed by clinical data.

Development Status: Preliminary clinical data; validation studies are ongoing (confirmed findings in two independent patient groups).

Market: Cancer Vaccines are emerging as the forefront treatment regimens for several cancers. Provenge® was recently approved by the FDA for the treatment of prostate cancer. There are several other cancer vaccines in clinical trials.

This technology can be developed into a pioneering test, as no such test to monitor prognosis and efficacy of cancer vaccines currently exists in the market.

Inventors: Jeff Gildersleeve, *et al.* (NCI).

Publications: No publications directly related to this technology.

Patent Status:

- U.S. Provisional Application No. 61/371,537 filed August 6, 2010 (HHS Reference No. E–234–2010/0–US–01).

- U.S. Provisional Application No. 61/443,955 filed February 17, 2011 (HHS Reference No. E–234–2010/1–US–01).

Licensing Status: Available for licensing.

Licensing Contact: Sabarni Chatterjee, M.B.A., PhD; 301–435–5587; chatterjeesa@mail.nih.gov.

Collaborative Research Opportunity: The Center for Cancer Research, Chemical Biology Laboratory, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize anti-glycan serum antibodies as biomarkers for cancer or