V. Comments

Interested persons may submit to the Division of Dockets Management (see **ADDRESSES**), written or electronic comments regarding this document. Submit a single copy of electronic comments or two paper copies of any mailed comments, except that individuals may submit one paper copy. Comments are to be identified with the docket number found in brackets in the heading of this document. Received comments may be seen in the Division of Dockets Management between 9 a.m. and 4 p.m., Monday through Friday.

Dated: April 16, 2010.

Leslie Kux,

Acting Assistant Commissioner for Policy.

[FR Doc. 2010–9209 Filed 4–23–10; 8:45 am]

BILLING CODE 4160–01–S

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.

Peroxidase and Peroxidase Substrate Peptides (PSPs) for Treatment of Inflammatory Disorders and Allergies

Description of Invention: NIH investigators have identified an unexpected and previously unrecognized function of the peroxidase/dual oxidase system in protecting the mucosal surfaces, such as in the gastrointestinal and respiratory tracts. Specifically, NIH investigators have shown that a peroxidase and a dual oxidase (Duox) form a dityrosine network that decreases gut permeability to immune elicitors and prevents activation of epithelial immunity in *An. gambiae* mosquitoes. This technology provides for novel compositions that enhance the formation of a dityrosine network on epithelial cells, such as those found in the gastrointestinal and respiratory tract mucosa of vertebrates, by forming a mucosal barrier on the epithelial surface preventing or inhibiting epithelial cell-mediated inflammatory responses (such as those associated with an inflammatory disease or an allergic reaction). Exemplary compositions include a mammalian or plant heme peroxidase and a peroxidase substrate peptide (PSP).

The compositions of this technology can be useful as therapeutics for several diseases or disorders involving epithelial cell-mediated inflammatory responses (*e.g.,* inflammatory bowel diseases such as Crohn's, and allergic disorders).

Development Status: Early stage.

Applications:

- Therapeutics for autoimmune diseases.
- Therapeutics for food allergies.

Inventors: Carolina Barillas-Mury, Sanjeev Kumar, and Alvara Molina-Cruz (NIAID).

Related Publication: Kumar S, Molina-Cruz A, Gupta L, Rodrigues J, Barillas-Mury C. A peroxidase/dual oxidase system modulates midgut epithelial immunity in *Anopheles gambiae.* Science. 2010 Mar 26;327(5973):1644–1648. [PubMed: 20223948]

Patent Status: U.S. Provisional Application No. 61/308,249 filed 25 Feb 2010 (HHS Reference No. E–073–2010/0–US–01).

Licensing Status: Available for licensing.

Licensing Contact: Suryanarayana (Sury) Vepa, PhD, J.D.; 301–435–5020; *vepas@mail.nih.gov*.

Collaborative Research Opportunity: The National Institute of Allergy and Infectious Diseases, Office of Technology Development, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize *Peroxidase and Peroxidase Substrate Peptides (PSPs) for Treatment of Inflammatory Disorders and Allergies.* Please contact Dana Hsu at 301–496–2644 for more information.

Reversible SNAP–Tag and CLIP–Tag Ligands for Live Cell Imaging

Description of Invention: Recently-developed protein tags enable the specific covalent attachment of synthetic ligands, incorporating fluorophores or other substituted groups, to fusion proteins containing these tags. For example, SNAP and CLIP tags bind O^6-benzylguanine-containing and O2-benzylcytosine containing ligands respectively, which can be derivatized with a wide variety of labels, including fluorescent dyes, affinity probes, and cross-linkers. This system provides a powerful tool to study a variety of highly dynamic processes within cells, including protein trafficking, turnover, and complex formation. However, a substantial limitation to this approach is that labeling is irreversible, due to the formation of a covalent bond between the probe and the protein tag.

The inventors have developed ligands that incorporate a disulfide linkage between the O^6-benzylguanine moiety and the label, allowing selective release of the label from the tagged protein when treated with a reducing agent. The inventors have shown that use of these ligands in conjunction with cell-impermeable reducing agents allows visualization of internalization and trafficking in live cells; these ligands may also be used in other applications in which a cleavable label would be desirable, such as protein purification. This strategy is also applicable to other covalent protein tags, such as the ACP/MCP protein tag system.

Applications:

- Visualization of dynamic processes within cells, including protein trafficking, turnover, and complex formation.
- Live cell imaging.
- Protein purification.

Advantages:

- Allows for selective release of label.
- Accommodates intra- or extra-cellular labeling, and dual labeling.
- Ligands may be derivatized with a wide variety of labels, including fluorescent dyes, affinity probes, and cross-linkers.
- Lower background fluorescence and higher contrast than other systems, such as FlAsH.

Inventors: Nelson B. Cole and Julie G. Donaldson (NHLBI).

Related Publication: In preparation.

Patent Status: U.S. Provisional Application No. 61/312,814 filed 11 Mar 2010 (HHS Reference No. E–057–2010/0–US–01).

Licensing Status: Available for licensing.

Licensing Contact: Tara Kirby, PhD; 301–435–4426; *tarak@mail.nih.gov*.

Composite Probes and Use Thereof in Super Resolution Microscopy

Description of Invention: The technology offered for licensing and for further development is in the field of fluorescence microscopy. More specifically, the invention describes and claims the composite probes for super resolution optical techniques using super resolution via transiently activated quenchers (STAQ). The composite probes include a donor moiety and an acceptor moiety joined by a linker. The acceptor moiety, when excited by incident radiation, is excited to a state which, for example, absorbs in the donor emission region, such that the acceptor moiety in its excited state quenches at least a portion of the donor moiety emission. Other transiently activated quenching mechanisms and moieties could accomplish the same task by reducing donor population. Also disclosed are methods for irradiating a selected region of a target material including the composite probe, wherein the composite probe enables improved resolution by point spread function modification.

Applications:

- Ultrafine imaging for biomolecules, vesicles and organelles, particularly of living biological samples, in biomedical research.
- Potential applications in clinical diagnostics.
- Nanoscopic Lithography—STAQ composites could, in principle, control polymerization of photoresist masks to make feature sizes below 20nm.

Advantages: Fluorescence microscopy is an important tool in the biomedical sciences allowing for the imaging of biological cells and tissues. One limit of fluorescence microscopy is that the optics of a microscope cannot create illuminated spots smaller than the diffraction limit, thus limiting the usefulness of such techniques to image biological samples at high resolution, generally below about 200 nm for visible light. The technology presented here allows for improved ultrafine imaging:

- Imaging objects as small as 10 nm.
- Narrow the point spread function.
- STAQ uses less power, making live cell study practical at theoretically high resolution.

Development Status:

- The invention is fully developed.
- Need to build multicolor palette that can be integrated into a commercial microscope.
- May need to make certain protein chimeras and photoinitiators for validation.

Inventors: Jay R. Knutson and Gary L. Griffiths (NHLBI).

Relevant Publications:

1. Doose S, Neuweiler H, Barsch H, Sauer M. Probing polyproline structure and dynamics by photoinduced electron transfer provides evidence for deviations from a regular polyproline type II helix. Proc Natl Acad Sci USA. 2007 Oct 30;104(44):17400–17405. [PubMed: 17956989]

2. Schuler B, Lipman EA, Steinbach PJ, Kumke M, Eaton WA. Polyproline and the "spectroscopic ruler" revisited with single-molecule fluorescence. Proc Natl Acad Sci USA. 2005 Feb 22;102(8):2754–2759. [PubMed: 15699337]

3. Best RB, Merchant KA, Gopich IV, Schuler B, Bax A, Eaton WA. Effect of flexibility and cis residues in single-molecule FRET studies of polyproline. Proc Natl Acad Sci USA. 2007 Nov 27;104(48):18964–18969. [PubMed: 18029448]

4. Sahoo H, Roccatano D, Hennig A, Nau WM. A 10–A spectroscopic ruler applied to short polyprolines. J Am Chem Soc. 2007 Aug 8;129(31):9762–9772. [PubMed: 17629273]

5. Li L, Gattass RR, Gershgoren E, Hwang H, Fourkas JT. Achieving lambda/20 resolution by one-color initiation and deactivation of polymerization. Science. 2009 May 15;324(5929):892–893. [PubMed: 19359543]

6. Hell SW. Far-field optical nanoscopy. Science. 2007 May 25;316(5828):1153–1158. [PubMed: 19525330]

7. Masia F, Langbein W, Watson P, Borri P. Resonant four-wave mixing of gold nanoparticles for three-dimensional cell microscopy. Opt Lett. 2009 Jun 15;34(12):1816–1818. [PubMed: 19529713]

8. Schmidt R, Wurm CA, Punge A, Egner A, Jakobs S, Hell SW. Mitochondrial cristae revealed with focused light. Nano Lett. 2009 Jun;9(6):2508–2510. [PubMed: 19459703]

Patent Status: U.S. Provisional Application No. 61/290,282 filed 28 Dec 2009 (HHS Reference No. E–253–2009/0–US–01).

Licensing Status: Available for licensing.

*Licensing Contact*s: Uri Reichman, PhD, MBA; 301–435–4616; *UR7a@nih.gov* or Michael Shmilovich, Esq.; 301–435–5019; *shmilovm@mail.nih.gov*.

Collaborative Research Opportunity: The National Heart, Lung and Blood Institute (NHLBI) Laboratory of Molecular Biophysics (LMB) is also seeking statements of capability or interest from parties interested in collaborative partnerships to further develop, evaluate, or commercialize this technology. Please contact Brian Bailey, PhD at *bbailey@mail.nih.gov* for more information.

Substituted Triazine and Purine Compounds for the Treatment of Chagas Disease and African Trypanosomiasis

Description of Invention: Parasitic protozoa are responsible for a wide variety of infections in both humans and animals. Trypanosomiasis poses health risks to millions of people across multiple countries in Africa and North and South America. Visitors to these regions, such as business travelers and tourists, are also at risk for contracting parasitic diseases. There are two types of African trypanosomiasis, also known as sleeping sickness. One type is caused by the parasite *Trypanosoma brucei gambiense,* and the other is caused by the parasite *Trypanosoma brucei rhodesiensi.* If left untreated, African sleeping sickness results in death. Chagas disease, caused by *Trypanosoma cruzi (T. cruzi),* affects millions of people in Mexico and South and Central America. Untreated, Chagas disease causes decreased life expectancy and can also result in death.

The subject invention covers novel triazine and purine compounds that are inhibitors of key proteases (cruzain and Rhodesian) of the parasites *Trypanosoma brucei rhodesiensi* and *Trypanosoma cruzi,* respectively.

Applications: Prophylactic and therapeutic treatment of African trypanosomiasis and Chagas disease

Advantages:

- Novel compounds against the cysteine proteases, cruzain and rhodesain.
- Compounds possess low nanomolar inhibitory potential against cruzain and rhodesain.

Development Status: In vitro and *in vivo* data are available upon request and upon execution of an appropriate confidentiality agreement.

Inventors: Craig J. Thomas *et al.* (NHGRI).

Related Publication: BT Mott *et al.* Identification and optimization of inhibitors of Trypanosomal cysteine proteases: cruzain, rhodesain, and TbCatB. J Med Chem. 2010 Jan 14;53(1):52–60. [PubMed: 19908842]

Patent Status: PCT Application No. PCT/US2009/063078 filed 03 Nov 2009 (HHS Reference No. E–267–2008/0–PCT–02)

Licensing Status: Available for licensing.

Licensing Contact: Kevin W. Chang, PhD; 301–435–5018; *changke@mail.nih.gov*.

Collaborative Research Opportunity: The NIH Chemical Genomics Center (NCGC) is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize appropriate lead compounds described in the patent application. Please contact Dr. Craig J. Thomas (*craigt@nhgri.nih.gov*) or Claire Driscoll (*cdriscol@mail.nih.gov*), Director of the NHGRI Technology Transfer Office, for more information.

Topical Formulation of Histone Deacetylase (HDAC) Inhibitors: Treatments for Cancer and Immunological Skin Disorders

Description of Invention: This technology relates to topical formulations of Histone Deacetylase (HDAC) inhibitors (HDIs) that can be used to treat cancers such as cutaneous T-cell lymphoma (CTCL) and skin disorders such as lupus, contact dermatitis, and drug eruptions which are associated with malignant or autoreactive lymphocytes from the immune system. HDIs, such as depsipeptide, have been demonstrated to be effective against CTCL when administered internally but a topical preparation may be more useful for treatment at earlier stages of the disease.

HDIs are molecules that inhibit the activity of a group of enzymes that remove small chemical groups called acetyl groups from many different proteins, including proteins that regulate gene expression. By altering the acetylation of these proteins, HDAC inhibitors can induce tumor cell differentiation, cell cycle arrest, and cell death. A variety of chemically distinct molecules exhibit HDAC inhibitory activity and their potential as therapeutics for cancer and other indications is being investigated. The HDI depsipeptide is a cyclical peptide derived from a bacterium and is indicated as a second line treatment for CTCL through intravenous administration. Development of a topical preparation of depsipeptide and/or other HDAC inhibitors may help reduce their toxicity and increase their effectiveness in treating CTCL, other cancers, as well as other diseases.

Applications:

- Use as a topical therapeutic for treatment of skin lymphomas.
- Use as a topical therapeutic for treatment of immunological skin disorders.

Advantages:

- HDIs such as vorinostat and depsipeptide have received regulatory approval for clinical use in systemic treatment of CTCL.
- Localized topical treatment reduces potential for adverse reactions, compared to systemic treatments.
- Clinical data illustrating the effectiveness of the topical formulation of depsipeptide are available.

Development Status: In early stage of clinical development.

Market: There is a need for effective low toxicity therapies to treat skin disorders due to activity of aberrant lymphocytes. CTCL is a rare form (800–1,000 new cases per year) of lymphoma in which the advanced disease can lead to disfigurement and pain. Patient mortality usually results from infections arising from eventual breach of the skin. An autoimmune disease, cutaneous lupus erythematosus accounts for about 10% of all lupus cases (1.4 million people in U.S.) and produces persistent skin lesions that may lead to scarring and hair loss. In the U.S., skin eruptions caused by prescribed medications are estimated to occur in approximately 2–5% of hospital patients. Most drug eruptions are delayed-type immune reactions with lymphocyte-mediated hypersensitivity which result in contact dermatitis, exanthematous reactions, and photoallergic reactions. A topical formulation of HDIs has potential of ameliorating the symptoms of these conditions.

Inventors: Susan Bates *et al.* (NCI).

Publication: Piekarz RL *et al.* Phase II multi-institutional trial of the histone deacetylase inhibitor romidepsin as monotherapy for patients with cutaneous T-cell lymphoma. J Clin Oncol. 2009 Nov 10;27(32):5410–5417. [PubMed: 19826128]

Patent Status: U.S. Patent Application No. 12/064,220 filed 19 Feb 2008 (HHS Reference No. E–238–2005/0–US–07) and foreign counterparts in Europe, Canada, Australia and Japan.

Licensing Status: Available for licensing.

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

Collaborative Research Opportunity: The Center for Cancer Research, Medical Oncology Branch and Affiliates, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize topical therapy using HDIs. Please contact John Hewes, PhD at 301–435–3131 or *hewesj@mail.nih.gov* for more information.

Variable Curve Catheter

Description of Invention: The invention provides a deflectable tip guiding device, such as a catheter, that enables the operator to vary the radius of curvature of the tip of the catheter. This is a novel variation on the classic "fixed fulcrum" tip deflectors used in minimally invasive procedures in open surgical treatments. The described device permits a more comprehensive ability to navigate complex geometric pathways in patient's body and enables better access to target structures (*e.g.,* to all endomyocardial walls from a transaortic approach). The guiding device can be made compatible with imaging methods like MRI. The described technology can be used as a platform for a variety of interventional devices for delivery of drugs, cells, energy, or sutures through complex trajectories of the body.

Inventors: Robert J. Lederman and Parag V. Karmarkar (NHLBI).

Patent Status: U.S. Patent Application No. 10/534,362 filed 07 Nov 2005 (HHS Reference No. E–035–2003/0–US–03).

Licensing Status: Available for licensing.

Licensing Contact: Jeffrey A. James; 301–435–5474; *jeffreyja@mail.nih.gov*.

Collaborative Research Opportunity: The NHLBI Translational Medicine Branch Cardiovascular Intervention Program is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize technology for image-guided cardiovascular interventions. Please contact Peg Koelble at *koelblep@nhlbi.nih.gov* for more information.

Dated: April 20, 2010.

Richard U. Rodriguez,

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

[FR Doc. 2010–9640 Filed 4–23–10; 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