

### **Cannabinoid Receptor 1 (CB1) Inverse Agonists for the Treatment of Diabetes, Obesity and Their Complications**

**Description of Technology:** Endocannabinoids are lipid signaling molecules that act on the same cannabinoid receptors—CB1 and CB2—that recognize and mediate the effects of marijuana. Activation of CB1 receptors increases appetite and the biosynthesis and storage of lipids, inhibits the actions of insulin and leptin, and promotes tissue inflammation and fibrosis. This has led to the development of CB1 receptor blocking drugs (inverse agonists) for the treatment of obesity and its metabolic complications, referred to as the metabolic syndrome. However, many CB1 inverse agonists can cross the blood-brain barrier, causing psychiatric side effects.

Researchers at NIH have now developed a novel strategy to structurally modify CB1 inverse agonists with the goals of (1) limiting their brain penetrance without losing their metabolic efficacy due to CB1 inverse agonism, and (2) generating compounds whose primary metabolite directly targets enzymes involved in inflammatory and fibrotic processes associated with metabolic disorders. These modified CB1 inverse agonists can be used to effectively treat metabolic syndrome and its complications without the risk of the psychiatric side effects, and have improved antiinflammatory and antifibrotic efficacy due to acting on more than one molecular target.

#### **Potential Commercial Applications:**

- Treatment for obesity
- Treatment for metabolic syndrome
- Treatment of diabetes
- Treatment of fibrosis

#### **Competitive Advantages:**

- Inhibits metabolic activity without causing psychiatric side effects
- Offers improved antiinflammatory and antifibrotic efficacy

#### **Development Stage:**

- In vitro data available
- In vivo data available (animal)

Inventors: George Kunos (NIAAA), Milliga Iyer (NIAAA), Resat Cinar (NIAAA), Kenner Rice (NIDA)

Intellectual Property: HHS Reference No. E-282-2012/0—US Provisional Application No. 61/725,949 filed 11 Nov 2012.

Licensing Contact: Jaime M. Greene; 301-435-5559; [greenejaim@mail.nih.gov](mailto:greenejaim@mail.nih.gov)

Collaborative Research Opportunity: The National Institute on Alcohol Abuse and Alcoholism, Laboratory of

Physiologic Studies, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize peripherally restricted CB1 receptor blockers with improved efficacy. For collaboration opportunities, please contact George Kunos, M.D., Ph.D. at [George.Kunos@nih.gov](mailto:George.Kunos@nih.gov) or 301-443-2069.

### **Software Method for 2-D NMR Tissue Compartment Analysis**

**Description of Technology:** The invention pertains to a method for improving the accuracy of compartment characterization using NMR. Conventional methods use Laplace transformation analyzed one dimensional transverse NMR relaxometry to investigate spin-lattice decay of water in diverse body compartments using. This method, although used extensively, is inaccurate and limited by signal-to-noise obscurities and when the materials and compartments to be analyzed vary in size or have disparate relaxation characteristics.

The improved method of this invention utilizes the detection of a 2-dimensional (2-D) NMR signal, created through use of a standard pulse sequence and variations, analysis of the signal using inverse Laplace transform, followed by projection of the resultant 2-D data onto a single axis corresponding to the parameter of original interest. The method can be extended to analyses for 3-D or higher dimensional experiments and inverse Laplace transforms.

#### **Potential Commercial Applications:**

- Compartment analysis
- Petroleum discovery
- Multiple sclerosis

#### **Competitive Advantages:**

Compartment resolution

Development Stage: Prototype

Inventors: Richard G. Spencer and Hasan Celik (NIA)

Intellectual Property: HHS Reference No. E-734-2013/0—Software. Patent protection is not being pursued for this technology.

Licensing Contact: Michael Shmilovich; 301-435-5019; [shmilovm@mail.nih.gov](mailto:shmilovm@mail.nih.gov)

Dated: October 18, 2013.

**Richard U. Rodriguez,**

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

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## **DEPARTMENT OF HEALTH AND HUMAN SERVICES**

### **National Institutes of Health**

#### **Office of the Director, National Institutes of Health; Notice of Meeting**

Pursuant to section 10(a) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), notice is hereby given of a stakeholder meeting hosted by the NIH Scientific Management Review Board (SMRB). Presentations and discussions will address the optimal approaches to assessing the value of biomedical research supported by the NIH and will include input from stakeholders in biomedical research.

The NIH Reform Act of 2006 (Pub. L. 109-482) provides organizational authorities to HHS and NIH officials to: (1) Establish or abolish national research institutes; (2) reorganize the offices within the Office of the Director, NIH including adding, removing, or transferring the functions of such offices or establishing or terminating such offices; and (3) reorganize, divisions, centers, or other administrative units within an NIH national research institute or national center including adding, removing, or transferring the functions of such units, or establishing or terminating such units. The purpose of the SMRB is to advise appropriate HHS and NIH officials on the use of these organizational authorities and identify the reasons underlying the recommendations.

The meeting will be open to the public, with attendance limited to space available. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should notify the Contact Person listed below in advance of the meeting.

*Name of Committee:* Scientific Management Review Board (SMRB).

*Date:* October 24–25, 2013.

*Time:* 9 a.m. on October 24, 2013 to 12:30 p.m. on October 25, 2013.

*Agenda:* Presentations and discussions will include: 1) an update from the SMRB's Working Group on Approaches to Assess the Value of Biomedical Research Supported by NIH, and 2) presentations that explore approaches to assess the value of biomedical research supported by NIH. Time will be allotted on the agenda for public comment. Sign up for public comments will begin approximately at 7:30 a.m. on October 24, 2013, and will be restricted to one sign-in per person. In the event that time does not allow for all those interested to present oral comments, any interested person may file written comments with the committee by forwarding the statement to the Contact Person listed on this notice. The statement

should include the name, address, telephone number and when applicable, the business or professional affiliation of the interested person.

*Place:* National Institutes of Health, Building 31, 6th Floor, Conference Room 6, 31 Center Drive, Bethesda, MD 20892.

*Contact Person:* Juanita Marner, Office of Science Policy, Office of the Director, NIH, National Institutes of Health, 6705 Rockledge Drive, Suite 750, Bethesda, MD 20892, [smrb@mail.nih.gov](mailto:smrb@mail.nih.gov), (301) 435-1770.

The meeting will also be webcast. The draft meeting agenda and other information about the SMRB, including information about access to the webcast, will be available at <http://smrb.od.nih.gov>.

In the interest of security, NIH has instituted stringent procedures for entrance onto the NIH campus. All visitor vehicles, including taxis, hotel, and airport shuttles will be inspected before being allowed on campus. Visitors will be asked to show one form of identification (for example, a government-issued photo ID, driver's license, or passport) and to state the purpose of their visit.

This notice is being published less than 15 days prior to the meeting due to the U.S. government shutdown.

(Catalogue of Federal Domestic Assistance Program Nos. 93.14, Intramural Research Training Award; 93.22, Clinical Research Loan Repayment Program for Individuals from Disadvantaged Backgrounds; 93.232, Loan Repayment Program for Research Generally; 93.39, Academic Research Enhancement Award; 93.936, NIH Acquired Immunodeficiency Syndrome Research Loan Repayment Program; 93.187, Undergraduate Scholarship Program for Individuals from Disadvantaged Backgrounds, National Institutes of Health, HHS)

Dated: October 18, 2013.

**Melanie J. Gray,**

*Program Analyst, Office of Federal Advisory Committee Policy.*

[FR Doc. 2013-24817 Filed 10-18-13; 4:15 pm]

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## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute on Aging; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), 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 Institute on Aging Special Emphasis Panel; Osteoporosis Omics.

*Date:* November 15, 2013.

*Time:* 12:00 p.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institute on Aging, Gateway Building, Suite 2C212, 7201 Wisconsin Avenue, Bethesda, MD 20892, (Telephone Conference Call).

*Contact Person:* Elaine Lewis, Ph.D., Scientific Review Officer, Scientific Review Branch, National Institute on Aging, Gateway Building, Suite 2C212, MSC-9205, 7201 Wisconsin Avenue, Bethesda, MD 20892, 301-402-7707, [elainelewis@nia.nih.gov](mailto:elainelewis@nia.nih.gov).

(Catalogue of Federal Domestic Assistance Program Nos. 93.866, Aging Research, National Institutes of Health, HHS)

Dated: October 18, 2013.

**Melanie J. Gray,**

*Program Analyst, Office of Federal Advisory Committee Policy.*

[FR Doc. 2013-24822 Filed 10-22-13; 8:45 am]

**BILLING CODE 4140-01-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Office of the Director, National Institutes of Health; Notice of Meeting

Pursuant to section 10(a) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), notice is hereby given of a meeting of the Advisory Committee to the Deputy Director for Intramural Research, National Institutes of Health.

The meeting will be open to the public, with attendance limited to space available. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should notify the Contact Person listed below in advance of the meeting.

*Name of Committee:* Advisory Committee to the Deputy Director for Intramural Research, National Institutes of Health.

*Date:* November 4, 2013.

*Time:* 1:30 p.m. to 3:00 p.m.

*Agenda:* To discuss site visit report.

*Place:* National Institutes of Health, Conf. Line: 888-282-0367 Code: 13831, One Center Drive, Rm. 160, Bethesda, MD 20892, (Telephone Conference Call).

*Contact Person:* Michael M Gottesman, Deputy Director for Intramural Research, National Institutes of Health, One Center Drive, Rm. 160, Bethesda, MD 20892, (301) 496-1921.

This meeting notice may be published less than 15 days in advance of the meeting due to the October 2013 Government shutdown.

(Catalogue of Federal Domestic Assistance Program Nos. 93.14, Intramural Research Training Award; 93.22, Clinical Research Loan Repayment Program for Individuals from Disadvantaged Backgrounds; 93.232, Loan Repayment Program for Research Generally; 93.39, Academic Research Enhancement Award; 93.936, NIH Acquired Immunodeficiency Syndrome Research Loan Repayment Program; 93.187, Undergraduate Scholarship Program for Individuals from Disadvantaged Backgrounds, National Institutes of Health, HHS)

Dated: October 17, 2013.

**Anna Snouffer,**

*Deputy Director, Office of Federal Advisory Committee Policy.*

[FR Doc. 2013-24821 Filed 10-22-13; 8:45 am]

**BILLING CODE 4140-01-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of General Medical Sciences; Notice of Closed Meetings

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

The meetings 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 Institute of General Medical Sciences Special Emphasis Panel P20 INBRE Applications.

*Date:* October 29, 2013.

*Time:* 8:00 a.m. to 6:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* Double Tree by Hilton Hotel Bethesda, 8120 Wisconsin Avenue, Bethesda, MD 20814.

*Contact Person:* Nina Sidorova, Ph.D., Scientific Review Officer, Office of Scientific Review, National Institute of General Medical Sciences, National Institutes of Health, 45 Center Drive, Room 3An.22, Bethesda, MD 20892, 301-594-3663, [sidorova@nigms.nih.gov](mailto:sidorova@nigms.nih.gov).

*Name of Committee:* National Institute of General Medical Sciences Special Emphasis Panel; Peer Review of SCORE (SB) Grant Applications.

*Date:* October 30, 2013.

*Time:* 1:00 p.m. to 5:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, Natcher Building, 45 Center Drive, Room