Cannabinoid Receptor Meditating Compounds for Metabolic Disease

Description of Technology: There is evidence that the metabolic effects of endocannabinoids are mediated by CB1 receptors in peripheral tissues. While prior attempts at generating CB1 receptor blockers have had serious neuropsychiatric side effects, inventors at NIH have discovered compounds that block CB1 receptors with reduced brain penetrance. In addition, some of these compounds also have a direct inhibitory effect on inducible nitric oxide synthase (iNOS), whereas another group of the compounds directly activates AMP kinas. These dual-target compounds may be useful for treating metabolic disease and related conditions such as obesity and diabetes and their complications, including liver or kidney fibrosis, without the dangerous the side effects.

Potential Commercial Applications: Treatment of metabolic disease and related conditions such as diabetes, obesity and fibrotic disease.

Competitive Advantages: Cannabinoid receptor blockers with reduced brain penetrance relative to older drugs of this class, also having secondary target for improved therapeutic efficacy.

Development Stage: Early-stage.

Inventors: George Kunos (NIAAA), Malliga R. Iyer (NIAAA), Resat Cinar (NIAAA), Kenner C. Rice (NIDA).

Intellectual Property: HHS Reference No. E–140–2014/0—U.S. Provisional Application No. 61/991,333 filed May 9, 2014.

Related Technologies:

- HHS Reference No. E–211–2006/0—U.S. Patent No. 8,293,724 issued October 23, 2012
- HHS Reference No. E–282–2012/0—PCT Application No. PCT/US2013069686 filed December 11, 2013
- HHS Reference No. E–103–2013/0—PCT Application No. PCT/US2014/043924 filed June 24, 2014

Licensing Contact: Jaime M. Greene; 301–435–5559; *greenejaime@mail.nih.gov*.

Octopod (8-Pointed Star-Shape) Iron Oxide Nanoparticles Enhance MRI T_2 Contrast

Description of Technology: The octopod-shaped iron oxide nanoparticles of this technology significantly enhance contrast in MRI imaging compared to spherical superparamagnetic iron oxide nanoparticle T_2 contrast agents. These octopod iron oxide nanoparticles show a transverse relaxivity that is over five times greater than comparable spherical agents. Because the unique octopod shape creates a greater effective radius than spherical agents, but maintains similar magnetization properties, the relaxation rate is improved. The improved relaxation rate greatly enhances the contrast of images. These octopod agents appear to be bio-compatible and may be suitable for intravenous delivery. The synthesis of these agents is also easily reproducible and scaled. The superior contrast greatly improves diagnostic sensitivities, compared to current FDA approved spherical contrast agents. These octopod-shaped iron oxide nanoparticle T_2 contrast agents may have a number of medical imaging uses, such as tumor detection, atherosclerosis imaging and delivery of therapeutic treatments.

Potential Commercial Applications: Medical imaging, such as tumor detection, atherosclerosis imaging and delivery of therapeutic treatments.

Competitive Advantages:

- Enhanced T_2 contrast
- Reproducible and scalable synthesis
- Improved imaging and diagnostic capability

Development Stage: In vivo data available (animal).

Inventors: Xiaoyuan Chen (NIBIB), Jinhao Gao (Xiamen University, China), Zhenghuan Zhao (Xiamen University, China).

Publication: Zhao Z, et al. Octapod iron oxide nanoparticles as high-performance T_2 contrast agents for magnetic resonance imaging. Nat Commun. 2013; 4:2266. [PMID 23903002].

Intellectual Property: HHS Reference No. E–314–2013/0—PCT Application No. PCT/CN2013/076645 filed June 3, 2013.

Licensing Contact: Edward (Tedd) Fenn; 424–297–0336; *tedd.fenn@nih.gov*.

Collaborative Research Opportunity: The National Institute of Biomedical Imaging and Bioengineering is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize this technology. For collaboration opportunities, please contact Cecilia Pazman, Ph.D. at *pazmance@mail.nih.gov.*

Dated: December 9, 2014.

Richard U. Rodriguez,

Acting Director, Office of Technology Transfer, National Institutes of Health.

[FR Doc. 2014–29319 Filed 12–15–14; 8:45 am]

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Neurological Disorders and Stroke; 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 of Neurological Disorders and Stroke Special Emphasis Panel; Translational.

Date: January 23, 2015.

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

Agenda: To review and evaluate grant applications.

Place: Hotel Monaco, 700 F Street NW., Washington, DC 20004.

Contact Person: Joel A. Saydoff, Ph.D., Scientific Review Officer, Scientific Review Branch, Division of Extramural Research, NINDS/NIH/DHHS/Neuroscience Center, 6001 Executive Boulevard, Suite 3205, MSC 9529, Bethesda, MD 20892–9529, 301–496–9223, *joel.saydoff@nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.853, Clinical Research Related to Neurological Disorders; 93.854, Biological Basis Research in the Neurosciences, National Institutes of Health, HHS)

Dated: December 9, 2014.

Carolyn Baum,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2014–29322 Filed 12–15–14; 8:45 am]

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Allergy and Infectious Diseases; 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