Beta-Amyloid and Tau Fibril Positron Emissions Tomography (PET) Imaging Agents

Description of Technology: The invention relates to two novel classes of compounds useful as radioligands for in vivo imaging of beta-amyloid fibrils, peptides and plaques in humans. Beta-amyloid peptide deposition in the brain is a pathological feature of Alzheimer’s disease (AD). Early detection of beta-amyloid load in patients with suspected AD is vital to initiating early treatment, which can improve cognitive function and quality of life for many patients. The invention describes novel derivatives of imidazo-pyridinyl-benzeneamine (IMPY) and benzo-thiazolyl-benzeneamine (BTA), which demonstrate high in vitro binding affinity to human beta-amyloid. The difference between existing IMPY compounds and the novel derivatives is the substitution of an aryl halide with an aryl thioether group and replacement of a sulfur group of the pyridine ring with a nitrogen group. The new classes of compounds have the potential of improved amyloid imaging agents for Positron Emission Tomography (PET) with higher specificity for amyloid, low background noise, better entry into the brain and improved labeling efficiency.

Potential Commercial Applications:
- Alzheimer’s disease
- Alzheimer’s disease diagnostics
- Alzheimer’s disease early detection

Competitive Advantages: Specificity
Development Stage: In vitro data available
Inventors: Lisheng Cai, Victor W. Pike, Robert P. Innis (all of NIMH)
Publications:
- US Patent Application 12/293,940 filed September 17, 2008 (allowed)
- European Patent Application 07797254.5 filed April 19, 2007 (pending)

Related Technologies:
- HHS Reference No. E–136–2006–0–‘Beta Amyloid PET Imaging Agents Based On 2-(4-phenyl)benzo[d]thiazole Derivatives’
- HHS Reference Nos. E–225–2011/0 and/1–‘Beta-amyloid PET Imaging Agents Based On Benzothiazoles (BTA) Derivatives’

Licensing Contact: Michael Shmilovich, Esq., CLP; 301–435–5019; shmilovm@mail.nih.gov.

Collaborative Research Opportunity: The National Institute of Mental Health is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize Alzheimer’s disease diagnostics. For collaboration opportunities, please contact Suzanne Winfield, Ph.D. at 301–402–4324.

Dated: February 27, 2014.

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

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BILINGUE CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute on Deafness and Other Communication Disorders; 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 on Deafness and Other Communication Disorders Special Emphasis Panel; Neural/Vestibular Prosthesis Review.

Date: March 21, 2014.
Time: 2:00 p.m. to 3:30 p.m.

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; Review of K99 Grant Applications.

Date: March 25, 2014.
Time: 8:00 a.m. to 5:00 p.m.