

Nitrite and Nitrite-Methemoglobin Therapy To Detoxify Stroma-Free Hemoglobin Based Blood Substitutes

Description of Technology: Cell-free hemoglobin based oxygen carriers (HBOCs) are blood substitutes and resuscitative agents that can be used to replace whole blood donations, alleviate blood shortages and reduce the risks of infections such as HIV and hepatitis. Stroma-free HBOCs offer the advantages of increased stability, consistency of supply, and reduced immunogenicity over the use of the alternative cell based sources. However, the side effects associated with their use, including vascular toxicity, pulmonary and systemic hypertension, myocardial infarction, inflammation, and platelet aggregation severely limit their scope of clinical applications. These adverse effects are due in part to the ability of free deoxygenated hemoglobin (deoxyHb) to scavenge for nitric oxide (NO) thus rendering it unavailable for vasodilating blood vessels.

This technology is a method of using nitrites to reduce the deleterious effects associated with HBOC use as blood substitutes. Free nitrites or nitrite-methemoglobin when added to stroma-free HBOCs are converted to NO and N₂O₃ which escapes the scavenging activity of deoxyHb and thus is free to vasodilate blood vessels. This maintains oxygen release and NO delivery enabling improved clinical outcomes. Recent studies, using this technology as a blood substitute, have led to a reversal of vasoconstriction, hypertension and hemorrhagic shock in animal models. This new approach also reduces the toxicity associated with the use of HBOCs as a blood substitute and may allow the widespread use of HBOCs as an alternative to cell based sources. In combination with this technology, HBOC blood substitutes may now be used to efficiently deliver therapeutic agents and maintain organ perfusion during trauma and surgery.

Advantages: Reduced toxicity of cell free hemoglobin blood substitutes; Increased blood perfusion in patients; Decreased dependence on blood donations.

Development Status: Pre-clinical.

Inventors: Mark T. Gladwin (NHLBI) et al.

Publication: S Basu, R Grubina, J Huang, J Conradie, Z Huang, A Jeffers, A Jiang, X He, I Azarov, R Seibert, A Mehta, R Patel, SB King, N Hogg, A Ghosh, MT Gladwin, DB Kim-Shapiro. Catalytic generation of N₂O₃ by the concerted nitrite reductase and anhydrase activity of hemoglobin. *Nat Chem Biol.* 2007 Dec;3(12):785-794.

Patent Status: U.S. Provisional Application No. 60/996,530 filed 31 Aug 2007 (HHS Reference No. E-259-2007/0-US-01).

Licensing Status: Available for licensing.

Licensing Contact: Fatima Sayyid, M.H.P.M.; 301-435-4521; Fatima.Sayyid@nih.hhs.gov.

Dated: April 8, 2008.

Steven M. Ferguson,

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

National Institute of Mental Health; Notice of Meeting

Notice is hereby given of a meeting of the Services Subcommittee of the Interagency Autism Coordinating Committee (IACC).

The purpose of the Services Subcommittee is to review the current state of services and supports for individuals with Autism Spectrum Disorder (ASD) and their families in order to improve these services. The Subcommittee meeting will be closed to the public with attendance limited to IACC members. The Subcommittee will report on its meeting at the next meeting of the IACC on May 12, 2008.

Name of Committee: Interagency Autism Coordinating Committee (IACC).

Type of meeting: Services Subcommittee.

Date: April 30, 2008.

Time: 1 p.m. to 3 p.m.

Agenda: Review the current state of services and supports for individuals with ASD and their families.

Place: National Institutes of Health, Neuroscience Center, 6001 Executive Boulevard, Bethesda, MD 20892-9669. (Telephone Conference Call)

Contact Person: Tanya Pryor, National Institute of Mental Health, NIH, Neuroscience Center, 6001 Executive Boulevard, Room 6198, Bethesda, MD 20892-9669, 301-443-7153, pryort@mail.nih.gov.

Information about the IACC is available on the Web site: <http://www.nimh.nih.gov/research-funding/scientific-meetings/recurring-meetings/iacc/index.shtml>.

Dated: April 8, 2008.

Jennifer Spaeth,

Director, Office of Federal Advisory Committee Policy.

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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR-5187-N-20]

Renewal Communities Annual Progress Reporting

AGENCY: Office of the Chief Information Officer, HUD.

ACTION: Notice.

SUMMARY: The proposed information collection requirement described below has been submitted to the Office of Management and Budget (OMB) for review, as required by the Paperwork Reduction Act. The Department is soliciting public comments on the subject proposal.

Renewal Communities are required to submit annual reports to HUD on the progress of their Tax Incentive Utilization Plan in assisting State and local governments and community-based organizations in their outreach to the business community and residents.

DATES: *Comments Due Date:* May 19, 2008.

ADDRESSES: Interested persons are invited to submit comments regarding this proposal. Comments should refer to the proposal by name and/or OMB approval number (2506-0173) and should be sent to: HUD Desk Officer, Office of Management and Budget, New Executive Office Building, Washington, DC 20503; fax: 202-395-6974.

FOR FURTHER INFORMATION CONTACT: Lillian Deitzer, Reports Management Officer, QDAM, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410; e-mail Lillian Deitzer at Lillian_L_Deitzer@HUD.gov or telephone (202) 402-8048. This is not a toll-free number. Copies of available documents submitted to OMB may be obtained from Ms. Deitzer.

SUPPLEMENTARY INFORMATION: This notice informs the public that the Department of Housing and Urban Development has submitted to OMB a request for approval of the information collection described below. This notice is soliciting comments from members of the public and affecting agencies concerning the proposed collection of information to: (1) Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (2) Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information; (3) Enhance the quality, utility, and clarity of the information to be collected; and (4) Minimize the