

**EMBARGOED FOR RELEASE**

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### **First NIDA Avant-Garde Awards for Medications Development Research**

Awards support novel approaches for treating tobacco and cocaine addiction

A potential immunotherapy, a new gene therapy, an enzyme inhibitor, and a compound originally isolated from a Chinese herb are among the latest approaches scientists are proposing to treat addiction. The recipients of the first-ever Avant-Garde Awards for Innovative Medication Development Research by the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health, will receive \$500,000 per year for five years to support their research.

“Science has clearly shown that drug addiction results from profound disruptions in brain structure and function, presenting numerous potential targets for medications development—yet, few medications have come to fruition,” said NIDA Director Nora D. Volkow, M.D. “The array of creative problem-solving approaches submitted by the awardees could help us quicken the pace to find urgently needed medications for addiction.”

Awardees are listed below:

Awardee: Andrew Norman, Ph.D., University of Cincinnati

Project: A Human Antibody as an Immunotherapy for Cocaine Abuse

Dr. Norman will move forward with the development of a human monoclonal antibody against cocaine, designated h2E2, which when injected into the bloodstream will attach to cocaine, preventing it from entering the brain and thereby limiting its behavioral effects. A similar mouse-human antibody, 2E2, has been shown to reduce cocaine’s effects in a rat model of relapse.

Awardee: William Brimijoin, Ph.D., Mayo Clinic, Rochester, Minn.

Project: Cocaine hydrolase gene therapy for cocaine abuse

Dr. Brimijoin’s lab is developing a gene therapy to prevent relapse to cocaine abuse. Their strategy is to use gene transfer to produce high and sustained levels of a modified version of the enzyme butyrylcholinesterase (BChE), which efficiently degrades cocaine in the bloodstream before it reaches the brain.

Awardee: Jia Bei Wang, M.D., Ph.D., University of Maryland at Baltimore

Project: Development of l-THP as New Medication for Drug Addiction

Dr. Wang and colleagues will perform preclinical and small-scale human safety and efficacy studies of the compound l-tetrahydropalmatine (l-THP), a molecule originally discovered in the extract of Chinese herbs, as a treatment for cocaine addiction. Recent animal studies have shown that l-THP can reduce cocaine reward and self-administration.

Awardee: Daniele Piomelli, Ph. D., University of California Irvine

Project: Optimization and preclinical development of FAAH inhibitors for smoking cessation

Dr. Piomelli and his team of researchers are pursuing a medication for smoking cessation using a novel approach of targeting the endogenous cannabinoid system. They will identify and optimize compounds that inhibit an enzyme called fatty acid amide hydrolase (FAAH), which degrades the endocannabinoid anandamide. Animal studies have shown that blocking FAAH reduces nicotine self-administration and prevents nicotine-induced reinstatement, a model of relapse.

“The pharmaceutical industry has been reluctant to invest in medications development for addiction due to stigma and perceived financial disincentives,” said Dr. Volkow. “These studies could lay the foundation to encourage greater pharmaceutical industry involvement, further helping to achieve our public health mandate to stop the devastation caused by drug abuse and addiction in this country.”

The newly launched research competition is an extension of NIDA’s successful Avant-Garde Award for Innovative HIV/AIDS Research, now in its third year. For further information about the Avant-Garde Award, please visit the NIDA Avant-Garde Award Web site at <http://drugabuse.gov/avgp.html>. Information about applications for the 2011 Avant-Garde Awards will be posted on this site soon.

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*The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world’s research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found on the NIDA home page at [www.drugabuse.gov](http://www.drugabuse.gov). To order publications in English or Spanish, call NIDA’s new DrugPubs research dissemination center at 1-877-NIDA-NIH or 240-645-0228 (TDD) or fax or email requests to 240-645-0227 or [drugpubs@nida.nih.gov](mailto:drugpubs@nida.nih.gov). Online ordering is available at <http://drugpubs.drugabuse.gov>.*

*The National Institutes of Health (NIH) — The Nation’s Medical Research Agency — includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary Federal agency for conducting and supporting basic, clinical and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit [www.nih.gov](http://www.nih.gov).*