A Team Effort

Dr. Gould's colleagues involved in the drug development effort include Panos Zanos, PhD a postdoctoral fellow in the Gould Laboratory; Carlos Zarate Jr., MD, from the National Institute of Mental Health; analytical and medicinal chemist Ruin Moaddel, PhD; from the National Institute on Aging; and chemistry and drug discovery experts Craig Thomas, PhD, and Patrick Morris, PhD, from the National Center for Advancing Translational Sciences.

Safely Treating Depression WITHOUT SIDE EFFECTS

TODD D. GOULD, MD

Associate Professor, Psychology, Pharmacology, Anatomy and Neurobiology, University of Maryland School of Medicine, Baltimore, Maryland.

FOCUS

Develop a new, fast-acting treatment for clinical depression that relieves symptoms without side effects

Goals

Ketamine, a long-established anesthetic, is known to have fast-acting antidepressant effects. Its use as a depression treatment is limited, however, because of side effects including dissociation and abuse potential. The Gould lab discovered ketamine's antidepressant effects are actually due to one of its metabolites, 2R,6R-HNK. In mice, this molecule is a rapid-acting antidepressant without the side effects of ketamine. With support from Harrington Discovery Institute, the Gould lab aims to conduct further studies of 2R,6R-HNK to be better positioned for U.S. Food and Drug Administration approval.

From the Scholar-Innovator

"I have always been passionate about medical research and wanted to develop new drugs."

"This is a team effort that involves academics, Harrington Discovery Institute's industry experts and individuals at NIH (National Institutes of Health) as equal partners in discovery and development."

"We are convinced that our drug has potential, but we are cognizant of recent history in the neurosciences where new drugs work in animal models but not in humans."

Milestones

2016 Published results in *Nature*, offering scientific evidence that 2R,6R-HNK has antidepressant activity without side effects