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## Richard Mohs-Dedicated to brain breakthrough

Richard C. Mohs, Ph.D., a distinguished research fellow at Eli Lilly and Co. ([lilly.com](http://lilly.com)), has dedicated more than 30 years to the field of neuroscience. Along the way, he has made several contributions in advancing cognitive research, most notably in exploring new targets in Alzheimer's disease.

As leader of Lilly Research Laboratories' Alzheimer's Disease Team, Dr. Mohs is responsible for the clinical development of the company's two late-phase Alzheimer's disease drugs – **semagacestat**, a small molecule, and **solanezumab**, a biologic. Both target amyloid beta, a small protein that builds up plaque in the brains of dementia patients. Although the precise cause of Alzheimer's disease is not known, research has shown that people with the disease have an excess amount of amyloid beta. The theory is that decreasing the level of this protein in the brain may result in a slowing of Alzheimer's disease progression.

Semagacestat is designed to decrease the rate of amyloid beta production by inhibiting gamma secretase. Solanezumab is designed to increase the clearance of amyloid beta from the brain by sequestering it in the periphery. Both compounds have advanced into late-stage trials based on biomarker data demonstrating that the drugs have pharmacodynamic effects to diminish amyloid beta in the central nervous system of Alzheimer's disease patients. The Lilly Alzheimer's Disease Team was the first to use a technique that enables measurement of the rate at which amyloid beta proteins are synthesized in the human central nervous system.

Dr. Mohs has worked with Lilly's corporate business development group to establish a risk and reward sharing agreement with TPG-Axon Capital and **NovaQuest** ([novaquestsolutions.com](http://novaquestsolutions.com)) relative to the Phase III development of semagacestat and solanezumab. Under the agreement, TPG-Axon and NovaQuest are assuming up to \$325 million in development costs for these Alzheimer's disease assets.

Dr. Mohs' work with semagacestat and solanezumab is just the latest example of his career-long focus on aging and Alzheimer's disease. The Zionsville, Ind., resident was the principal developer of the Alzheimer's Disease Assessment Scale, an instrument used widely today to evaluate treatments for dementia. Additionally, with collaborators at Mount Sinai School of Medicine in New York, Dr. Mohs helped determine the clinical and neuropathologic changes occurring at the very earliest stages of Alzheimer's disease. These findings provided insight into the development and progression of the debilitating brain condition, giving direction to researchers seeking treatments to slow disease progression, or even prevent it.

Dr. Mohs was also a lead investigator for clinical trials that led to the approval, in the United States and other countries, of the first cholinergic pharmaceutical treatments for Alzheimer's disease. In other CNS pursuits, Dr. Mohs helped map the lifetime course of cognitive deficiencies in schizophrenia and developed tools to assess treatments for these cognitive deficits. He holds the copyright to several instruments used to assess cognitive function.

Dr. Mohs' interest in science dates back to his high-school days, when he was certain he wanted a career in science but was not sure in which field. His time spent in graduate school at Stanford University ultimately helped narrow his preference. Dr. Mohs credits his advisor at the time, Richard Atkinson, who later became president of the University of California, for convincing him that there was a promising future in the interface of psychology and pharmacology, using psychological assessment techniques to help understand the effects of medicines in humans. From there, a career was born. In 2002, following 23 years with Mount Sinai School of Medicine, where Dr. Mohs was a professor in the department of psychiatry and associate chief of staff for research at the Bronx Veterans Affairs Medical Center, he joined Lilly Research Laboratories.