

## Scripps Florida Team Awarded Nearly \$1.5 Million to Develop Potent New HIV Inhibitors

By Eric Sauter

A Scripps Florida team has been awarded nearly \$1.5 million by the National Institutes of Health to identify and develop novel potent inhibitors of the human immunodeficiency virus (HIV), the cause of AIDS.

A. Donny Strosberg, a professor on the Florida campus of The Scripps Research Institute, is the principal investigator for the new three-year study.

Current treatments of HIV-infected patients are based on combinations of drugs—called cocktails—that target several critical key steps in the early and late stages of the viral replication cycle. While these combinations have proven effective in controlling the infection in many patients, the continuous emergence of new multi-resistant viral strains requires the development of new classes of drugs that can be aimed at different targets on HIV.

Strosberg's target is the capsid protein or CA, the primary component of the HIV virion—the infectious particle responsible for transporting the viral genome to host cells. This viral protein forms a cone-shaped shell around the HIV genome, and plays a critical role in the lifecycle of the virus by packaging and organizing the viral genome so that HIV can replicate efficiently.

“Because of the growing resistance of HIV against current treatments, a new, differently targeted approach to treating the disease is urgently needed,” Strosberg said. “We expect to use the HIV capsid protein as a new high-throughput screening target for the discovery of novel anti-HIV/AIDS agents.”

Identifying new compounds that could target the CA protein might make it possible to prevent the protein's assembly into capsid shells in the first place, blocking the virus's infectivity, and adding a potent complement to existing treatments, he said. This strategy has worked well for Strosberg's group, which has in the past years discovered several potent inhibitors of the hepatitis C virus.

Strosberg and his colleagues, who include Susana Valente, PhD, an assistant professor at Scripps Florida, and Massimo Caputi, PhD, an associate professor of biomedical science at the Florida Atlantic University Charles E. Schmidt College of Medicine, plan to perform an initial screening of some 350,000 compounds in the Molecular Libraries Probe Centers Network at Scripps Research; Scripps Research is one of only four such large probe centers nationwide.



*“We expect to use the HIV capsid protein as a new high-throughput screening target for the discovery of novel anti-HIV/AIDS agents,” says Professor A. Donny Strosberg. (Photo by Lucien Capehart.)*