

Addictive properties of drug abuse may hold key to an HIV cure

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A Florida State University researcher is on a mission to explore the gene-controlling effects of addictive drugs in pursuit of new HIV treatments.

Working under the support of a \$1.8 million grant from the National Institutes of Health (NIH), Florida State biologist Jonathan Dennis is studying a unique ability shared between a promising class of [HIV treatments](#) known as histone deacetylase inhibitors (HDIs) and [psychostimulant drugs](#) such as cocaine.

"Current HIV treatments do just that—they treat the disease by preventing the spread of HIV in the body, rather than eliminating the disease entirely," Dennis said. "I want to find out how to root out those dormant HIV cells that are evading the treatment, and I believe the gene-

controlling functions shared by HDIs and psychostimulant drugs hold the key to helping us do that."

HDI and [addictive drugs](#) such as cocaine share the ability to control [gene expression](#) through changes in the chromatin structure within DNA. In the case of HDI treatment, the chromatin changes are used to wake up dormant [HIV virus](#) cells that are hiding in the body.

Dennis believes that addictive drugs do the same thing. Dennis' work will focus on identifying and understanding the overlapping gene changes that occur between these two types of substances, ultimately providing other researchers with the foundational information they need to turn HDI treatments into HIV cures.

To learn more about the scope and purpose of Dennis' NIH grant, visit the grant website. To learn more about Dennis, visit his Department of Biological Science website.

Provided by Florida State University

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