Insight on Protein That Blocks HIV Replication May Help Battle Viral Reservoir

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Researchers have discovered the regulation process for a protein that prevents HIV from making copies of itself in white blood cells. This finding provides insight that may lead to new ways to prevent HIV reservoirs from forming, or to eliminate those that persist in the face of antiretroviral treatment. Publishing their findings in the online edition of the journal Cell Host & Medicine, investigators from Albert Einstein College of Medicine of Yeshiva University studied a protein called SAMHD1, which prevents HIV from replicating in some immune cells but fails to do so in cells such as macrophages that make up the reservoir.

The investigators used mass spectrometry to deduce that SAMHD1 has two different configurations: one called phosphorylated and the other unphosphorylated. The unphosphorylated SAMHD1 proteins did not protect macrophages from HIV, while the phosphorylated proteins did.

“We are currently exploring ways to keep this protein unphosphorylated so that HIV reservoirs will never be formed,” Felipe Diaz-Griffero, PhD, assistant professor of microbiology and immunology at Einstein, said in a release.

To read a release on the study, click here.

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