

## **Tulane University awarded \$4.2 million to study ways to wipe out HIV from hidden reservoirs**

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Lead investigator Huanbin Xu, assistant professor of pathology.

The National Institutes of Health has awarded [Tulane National Primate Research Center](#) \$4.2 million to study new ways to flush out and kill HIV from reservoirs where the virus lurks beyond the reach of antiviral therapies.

Current HIV treatments can stop the disease's progression to AIDS and knock the virus down to "undetectable" levels in the bloodstream, but they fall short of a cure because they must be taken for life to keep the disease in check. That's because HIV integrates into the genome of memory T-cells and lies dormant in reservoirs throughout the body. If a patient stops taking antivirals, HIV reawakens from these reservoirs to resume its attack on the immune system.

"The major obstacle to a cure for HIV infection is how to purge the persistent reservoir of latently infected cells," says lead investigator Huanbin Xu, assistant professor of pathology.

Using a nonhuman primate model of HIV, Xu plans to test standard antiviral drugs with a combination of therapies to wake up the latent virus and trigger the immune system to recognize infected cells and attack them. He will then target remaining virus with an antibody drug conjugate, a new class of highly potent

biopharmaceutical drugs. The so-called “kick and kill” approach to activate latent HIV so it’s more susceptible to targeted treatments is a promising new frontier in the search for a possible cure, Xu says.

His team will also test a new gene editing approach with a targeted delivery system for the therapy tailored to an individual’s immune system.

“So far, it’s a novel, comprehensive strategy,” Xu says.

One of the advantages of using a primate model for the treatment is that, if it’s successful, human clinical trials could begin relatively quickly, Xu says.

According to the Center for Disease Control and Prevention, more than 1.2 million people in the United States are living with HIV infection. Louisiana has the [second highest rates](#) of HIV infections and AIDS cases in the nation.