

# Scientist develops virus that targets HIV

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In what represents an important step toward curing HIV, a USC scientist has created a virus that hunts down HIV-infected cells.

Dr. Pin Wang's lentiviral vector latches onto HIV-infected [cells](#), flagging them with what is called "suicide [gene therapy](#)" — allowing drugs to later target and destroy them.

"If you deplete all of the HIV-infected cells, you can at least partially solve the problem," said Wang, chemical engineering professor with the USC Viterbi School of Engineering.

The process is analogous to the military practice of "buddy lasing" — that is, having a soldier on the ground illuminate a target with a laser to guide a precision bombing strike from an aircraft.

Like a precision bombing raid, the lentiviral vector approach to targeting [HIV](#) has the advantage of avoiding collateral damage, keeping cells that are not infected by HIV out of harm's way. Such accuracy has not been achieved by using drugs alone, Wang said.

So far, the lentiviral vector has only been tested in culture dishes and has resulted in the destruction of about 35 percent of existing HIV cells. While that may not sound like a large percentage, if this treatment were to be used in humans, it would likely be repeated several times to maximize effectiveness.

Among the next steps will be to test the procedure in mice. While this is

an important breakthrough, it is not yet a cure, Wang said.

"This is an early stage of research, but certainly it is one of the options in that direction," he said.

Provided by University of Southern California

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