

Lab made antibody against HIV shows promise in non-human primate studies

For 30 years, researchers have struggled to determine which immune responses best foil HIV, information that has guided the design of AIDS vaccines and other prevention approaches. Now, a research team has shown that a lab-made molecule that mimics an antibody from our immune system may have more protective power than anything the body produces, keeping four monkeys free of HIV infection despite injection of large doses of the virus.

But viral immunologist Michael Farzan of the Scripps Research Institute in Jupiter, Florida, and 33 co-workers have recently taken a different strategy, building a novel molecule based on our knowledge of how HIV infects cells. Thus far in cell culture and animal experiments, the molecule dubbed eCD4-Ig has outperformed all known natural HIV antibodies.

"I am a huge fan of this paper," says researcher Nancy Haigwood of Oregon Health & Science University in Beaverton. "It's really very creative and a breakthrough as far as I am concerned."

Not everyone is convinced that eCD4-Ig will ultimately work better than natural HIV antibodies. Virologist David Baltimore, a Nobel laureate based at the California Institute of Technology in Pasadena who is also working on the same problem describes the eCD4-Ig chimera and the paper as "impressive" but notes that the new work offers only test-tube and animal data. "It's perhaps a better construct than the antibodies we've been using, but it's a matter of how it plays out in human trials," Baltimore says. "I don't think it's easy to tell how that will happen."

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