

Research reveals further progress toward AIDS vaccine

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(PHILADELPHIA) Researchers from Thomas Jefferson University are one step closer to developing a vaccine against the AIDS disease.

Led by Matthias J. Schnell, Ph.D., director of the Jefferson Vaccine Center, the researchers found that a rabies virus-based vaccine administered to monkeys protected against the simian equivalent of the [HIV virus](#) (SIV). The data were published in the journal *Vaccine*.

The researchers previously showed that a rabies-based vaccine expressing [HIV](#) and SIV antigens protective against a chimeric HIV/SIV virus in monkeys. In this study, they used highly attenuated rabies [virus vaccine](#) vectors to protect against challenge with the highly pathogenic SIVmac251. This type of SIV virus causes a more similar disease in monkeys compared to human infection with HIV-1. In addition, it is difficult to protect monkeys against AIDS-like disease after challenge with SIVmac251.

Two vaccine strategies were used: immunization with a recombinant rabies virus expressing SIVmac239GagPol, or a combination of that and a rabies virus expressing SIVmac239Env. Both strategies induced neutralizing antibody production, CD8+ [T cell](#) responses, and increased protection. Although the combination with Env helped immediately following the infection, the long-term benefits were minimal. However, it was surprising that the rabies-based [vaccine](#) was able to induce such potent anti-SIV humoral responses.

"Although we can't yet block the infection, we showed that we can protect against disease," said Dr. Schnell. "We also saw significant antibody activity against the virus, which is promising. In addition, this is a very simple approach that only took two immunizations."

Source: Thomas Jefferson University ([news](#) : [web](#))

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