

New HIV Vaccine Booster Prompts Long-Lived Immune Response in Monkeys

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Researchers have developed a new HIV vaccine booster, or adjuvant, that helped give rise to an immune response in monkeys that lasted for up to 12 months in a recent study.

Publishing their findings in *Science Immunology*, researchers vaccinated 90 rhesus macaques with HIV antigens based on the viral envelope, or outer coating, combining this vaccine with the boosting agent 3M-052 in some of the animals.

The vaccine boosted with 3M-052 gave rise to an abundance of long-lived plasma cells, or mature B cells, that produced HIV-specific antibodies in the bone marrow and blood serum. When the booster was combined with a similar preexisting adjuvant, the immune responses lasted up to 12 months.

“We have known adjuvants are critical immunity-boosting supplements that help improve the effectiveness of vaccines,” the study’s first author, Sudhir Pai Kasturi, PhD, of Emory University, said in a press release. “Until now, however, it has been unclear which class of adjuvants can promote stable and long-lived immunity in nonhuman primate models. Our study provides that information.”

Co-senior author Rafi Ahmed, PhD, director of the Emory Vaccine Center, said, “The key to a successful vaccine is durability of immune responses. Antibodies provide the first line of defense against pathogens, and antibody levels are maintained by the generation of long-lived plasma cells that reside in bone marrow. Our study identifies an adjuvant that is effective in generating

such long-lived plasma cells in bone marrow.”

The findings have led investigators to launch a Phase I human clinical trial of the booster to assess its potential when given with vaccines based on HIV envelope antigens.

To read a press release about the study, [click here](#).

To read the study abstract, [click here](#).

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