Promising New Antibody

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Scientists have discovered a powerful antibody against HIV that neutralizes 98 percent of the types of virus they tested it against, including 16 of 20 types that were resistant to similar antibodies. Known as N6, the antibody was isolated from a single person and could be developed as part of a vaccine, as pre-exposure prophylaxis (PrEP) and as treatment for the virus.

Both N6 and another antibody that researchers have been investigating, called VRC01, block HIV from infecting cells by binding to the portion of the virus's exterior that binds to CD4 immune cells. But in contrast to VRC01, which yielded disappointing results in a recent trial, N6 favors targeting the parts of HIV's shell that are less likely to change as the virus mutates. As a result, N6 is more likely to remain effective against HIV as the virus evolves over time in an individual.

These and other findings suggest that N6, compared with VRC01, may be a superior weapon against HIV in various ways. N6 may be stronger and have longer-lasting effects; additionally, researchers may be able to deliver it through an injection into the fat just below the skin (subcutaneously) as opposed to into a vein (intravenously).

"I'm very excited and curious to see how well antibody combinations work in [HIV] therapy and [prevention]," says Mark Connors, MD, chief of the HIV-Specific Immunity Section of the National Institute of Allergy and Infectious Diseases and the study's lead author, speaking of future research of N6 and other antibodies.