

# NIH launches initiative to develop long-acting HIV treatment and prevention tools

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The National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, launched a major initiative to advance novel approaches to treat and prevent HIV infections based on broadly neutralizing antibodies (bNAbs) today. A public-private partnership has been established for this effort between NIAID and the global pharmaceutical company GlaxoSmithKline (GSK) to enable researchers to develop one or more bNAbs, which can stop a wide range of HIV strains from infecting human cells in the laboratory, into a product to treat or prevent HIV infection.

The partnership combines the expertise of NIAID scientists in discovering and analyzing HIV bNAbs with GSK's pharmaceutical development capability and experience in HIV research. Research and development will be conducted by NIAID's Dale and Betty Bumpers Vaccine Research Center (VRC) scientists under a five-year cooperative research and development agreement with GSK.

"NIAID scientists and grantees have pioneered the discovery and development of HIV broadly [neutralizing antibodies](#)," said NIAID Director Anthony S. Fauci, M.D. "This new partnership between our government scientists and GSK provides a pathway to accelerate the innovations needed to produce new and longer-acting agents for preventing and treating HIV."

Effective methods of treating and preventing HIV with antiretroviral drugs are available today. However, they currently require that people

take medication every day, which is challenging for many individuals. By working to develop preventive and therapeutic medicines that can be taken much less often, NIAID aims to create viable alternatives for people who are at substantial risk for HIV infection or for infected individuals for whom adherence is an impediment to effective treatment.

The new initiative will evaluate and work to improve known and novel HIV bNAbs, and identify combinations of bNAbs capable of blocking the widest range of HIV strains. The NIAID-GSK team will evaluate bNAbs discovered at NIAID to determine which ones are the most promising for further development.

Ultimately, the research team expects to combine two complementary antibodies, each targeting different sites on the HIV surface molecule that attaches to human cells. Virus strains that are resistant to one bNAb likely would be vulnerable to the other, increasing the likelihood that at least one of the two antibodies neutralizes the virus.

"This is an exciting time for the field, as we continue to discover HIV antibodies with progressively better neutralizing capacity," said John Mascola, M.D., NIAID VRC director. "Partnering with GSK will help design a new landscape, where we can advance HIV broadly neutralizing antibodies to evaluate their potential for treatment and prevention of HIV infection."

GSK brings long-standing pharmaceutical development, manufacturing expertise, and late-stage clinical development capabilities to the collaboration, along with research and development expertise in long-acting antiretroviral therapies.

"This partnership unites two organizations with more than three decades of experience fighting HIV," said Zhi Hong, Ph.D., senior vice president for infectious diseases at GSK. "We are thrilled to partner with NIAID

to rapidly translate the VRC's science into innovative medicines."

A [cooperative research and development agreement](#) is a unique type of agreement between a federal laboratory and one or more non-federal entities for conducting specified research and/or [development](#) that could lead to useful, marketable products that benefit public health. The agreement notes that data will be shared between NIAID and GSK, and decisions will be made jointly.

Provided by NIH/National Institute of Allergy and Infectious Diseases

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