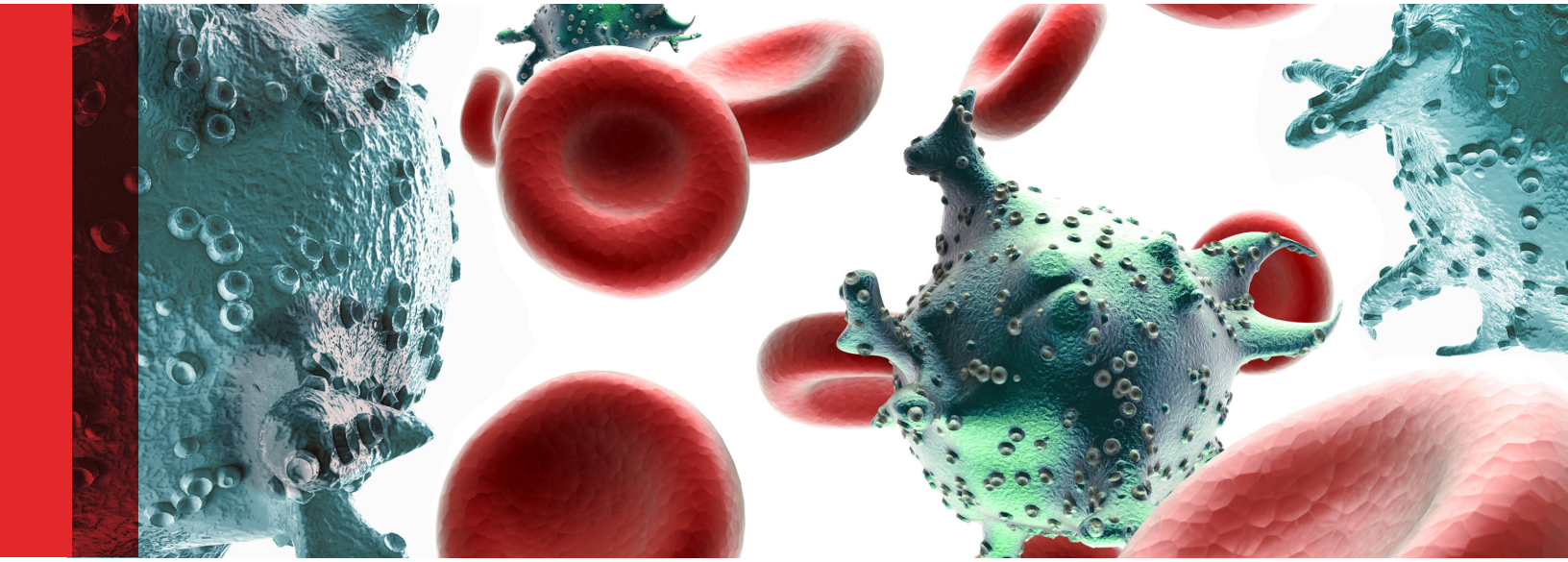
Argonne NATIONAL LABORATORY

LEADING AIDS DRUG HAS ROOTS IN THE ADVANCED PHOTON SOURCE



Kaletra® development was started in 1996. The drug was approved by the U.S. Food and Drug Administration (FDA) in 2000.

Kaletra®, one of the most successful drugs used to stop the progression of the HIV virus into AIDS, got its start at the U.S. Department of Energy Office of Science's (SC's) Advanced Photon Source (APS) at Argonne National Laboratory.

In 1996, scientists from Abbott Laboratories, who were using the APS, discovered a way to stop the HIV virus from replicating in the body through the use of a protease inhibitor that blocks the breakdown of proteins.

Scientists used x-ray crystallography techniques at the APS to pinpoint how the atoms of Kaletra® interact with the viral protein and where the drug should target the virus. The drug was designed to fit into a hole in the HIV protease protein, lock into position there, and prevent the HIV virus from replicating. Out of that work came the drug Kaletra®.

IMPACT

In 2002, Kaletra® became the most-prescribed drug in its class for AIDS therapy, and it remains widely used today. Kaletra® has been successful in prolonging the lives of thousands of AIDS patients.

PARTNERS

Research was done at the APS by scientists from Abbott Laboratories using the Industrial Macromolecular Crystallography Association Center for Advancing Therapeutics beamline, which is operated through a contract with the Hauptman-Woodward Medical Research Institute.

FUNDING

The U.S. Department of Energy's Office Science funds the APS.

TIMELINE

1996: development started
2000: drug approved by the FDA

CONTACT

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