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$19 million grant to fund center aimed at unlocking biological structure of HIV

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University of Utah biochemist Wesley I. Sundquist, Ph.D., has been awarded a five-year, $19.2 million National Institutes of Health (NIH) grant to establish an HIV research center to study the structural biology of the AIDS-causing virus.

The U of U center, one of three funded nationwide, will study the molecular structure of HIV to better understand how the virus takes control of the body's own cellular machinery to travel within a "host" cell, form new virus particles, and then spread to other cells, according to Sundquist. Unraveling the molecular structure of HIV may open the way to developing new types of drugs to treat the infection, and also serve as a model system for studying how other human viruses interact with host cells.

"Host cells can protect themselves from the (HIV) virus in a number of ways," said Sundquist, professor of biochemistry and the grant's principal investigator. "We want to understand how cells can recognize the virus and fight it."

Work at the U of U center could profoundly improve how HIV infection is treated, said Ravi Basavappa, a program director for the NIH.

"HIV is extremely adept at evolving resistance against therapeutics that target individual HIV proteins," Basavappa said. "The research proposed by Dr. Sundquist and his colleagues to understand in detail how the virus interacts with components of the cell could provide a framework for

developing entirely new classes of therapeutics."

The HIV Center, which will receive approximately $3.8 million in its first year of funding, will focus its research on four primary areas:

Sundquist will lead 11 other researchers at the HIV center, including five from the U of U and six from four other institutions: the California Institute of Technology; the Scripps Research Institute; Northwestern University; and the University of Virginia.

The U of U investigators are: Christopher P. Hill, Ph.D., professor of biochemistry; Michael S. Kay, M.D., Ph.D., assistant professor of biochemistry; David G. Myszka, Ph.D., research associate professor of biochemistry; Jill Trewhella, Ph.D., adjunct professor of chemistry; and Gregory A. Voth, Ph.D., distinguished professor of chemistry.

The NIH also awarded grants to the University of California, San Francisco, and the University of Pittsburgh to establish HIV centers that will study other aspects of the virus.

Source: University of Utah Health Sciences Center