Siblings With Rare Genes May Hold Key to Fighting Most Viruses

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Researchers discovered a pair of siblings with an extremely uncommon genetic mutation that makes their bodies virtually immune to almost all viruses, NBC News reported. By studying this condition, scientists may be able to develop newer and stronger antivirals.

An 11-year-old boy and his 6-year-old sister carry a mutation in their DNA that prevents their bodies from allowing certain viruses to build a protective shell. (Most viruses are able to build this shell—a process called glycosylation—by attaching sugars to proteins.) Unfortunately, this mutation leaves the children severely disabled.

But scientists at the National Institutes of Health (NIH) learned that the siblings' crippling condition can also leave viruses unprotected so they die and do not infect other cells. What's more, tests show that cells in the pair are able to resist viruses that cause herpes and the flu as well as more threatening infections such as dengue fever, hepatitis C and even HIV. Interestingly, the two can't fight off the common cold because the virus that causes this ailment doesn't have a sugar-protein shell.

Researchers believe these findings can be applied "to the general population to learn how to modulate the immune system," said Sergio Rosenzweig, MD, an immune deficiency expert at the NIH's National Institute of Allergy and Infectious Diseases. The good news is this study might lead to the creation of a new family of highly effective antiviral drugs to fight HIV.

Did you know cats may also hold a potential cure for HIV? Click here for more information.