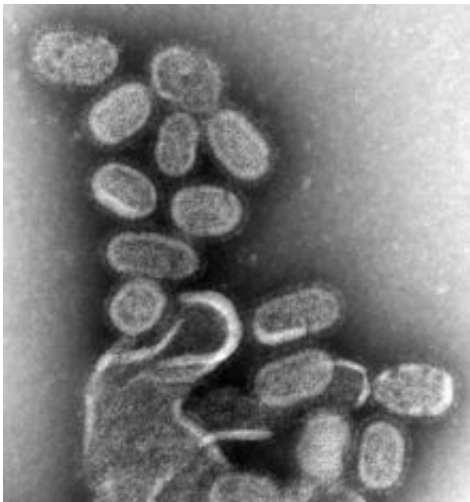


Detecting flu viruses in remote areas of the world

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Scientists are reporting a new method that uses sugar molecules instead of antibodies to detect influenza. Credit: Courtesy of Cynthia Goldsmith, CDC

Researchers in Ohio and New Mexico are reporting an advance in the quest for a fast, sensitive test to detect flu viruses — one that requires no refrigeration and can be used in remote areas of the world where new flu viruses often emerge. Their new method, the first to use sugar molecules rather than antibodies, is in the July 2 issue of the *Journal of the American Chemical Society*.

In the new study, Jurgen Schmidt, Suri Iyer, and colleagues point out that conventional tests for flu viruses — including bird flu — rely on

antibodies, proteins produced by the immune system, to recognize viruses. But antibody-based tests can be expensive and require refrigeration to remain stable.

Their solution involved development of artificial forms of sialic acid, a sugar molecule found on the surface of cells that flu viruses attach to when they attack humans. In laboratory tests, the researchers showed that their highly-selective artificial sugars could be used to quickly capture and recognize two common strains of influenza viruses, H1N1, which infects birds, and H3N2, which infects pigs and humans.

They used the molecules to differentiate between 2 strains (Sydney and Beijing) commonly found in human infections without isolating the viral RNA or surface glycoproteins. The sugars remain stable for several months, can be produced in large quantities, and exhibit extended shelf life.

Link: [dx.doi.org/10.1021/ja800842v](https://doi.org/10.1021/ja800842v)

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