

# Researchers move closer to a universal influenza vaccine

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Researchers at Mount Sinai School of Medicine have developed a new influenza vaccine that brings science one step closer to a universal influenza vaccine that would eliminate the need for seasonal flu shots. The new findings can be found in the inaugural issue of *mBio*, the first online, open-access journal published by the American Society for Microbiology.

"Current influenza vaccines are effective against only a narrow range of influenza virus strains," said Peter Palese, Ph.D., Professor and Chair of the Department of Microbiology at Mount Sinai School of Medicine. "This new vaccine brings us closer to our ultimate goal of a vaccine that protects against multiple strains."

The current seasonal [influenza vaccine](#) is strain-specific, targeting the globular head of the hemagglutinin (HA) molecule on the surface of the influenza virus. This globular head is highly variable and constantly changing from strain to strain. Each [flu season](#) presents a different strain, making it necessary to adjust the vaccine each year.

In the new study, Dr. Palese and his colleagues developed a vaccine using HA without its globular head. Mice were injected with the vaccine and then following challenge were monitored for morbidity and mortality daily for 10 days. All of the mice vaccinated with the headless HA vaccine survived, while all unvaccinated mice died. Mount Sinai School of Medicine has submitted a [patent application](#) for this vaccine approach.

"Our results suggest that the response induced by this vaccine is potent enough to warrant further development toward a universal influenza virus [vaccine](#)," said Dr. Palese. "With further development and testing, we predict that a single immunization will in the future offer a sufficient defense against several influenza epidemics."

Provided by The Mount Sinai Hospital

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