



National Institute of Allergy and Infectious Diseases

Leading research to understand, treat, and prevent infectious, immunologic, and allergic diseases.



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Tuesday, June 15, 2010

NIAID MEDIA AVAILABILITY **NIH-Funded Scientists Find 2009 H1N1 Pandemic Influenza** **Vaccine Protects Mice from 1918 Influenza Virus**

WHAT:

Mice injected with a 2009 H1N1 pandemic influenza vaccine and then exposed to high levels of the virus responsible for the 1918 influenza pandemic do not get sick or die, report scientists funded by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health. The new vaccine works against the old virus because the 1918 and the 2009 strains of H1N1 influenza share features that allow vaccine-generated antibodies to recognize both viruses. To learn more, similar challenge studies need to be conducted in other animals, including monkeys, but the investigators say their results suggest people who are vaccinated against 2009 H1N1 influenza or were exposed to the virus could have similarly cross-protective antibodies against the 1918 strain of H1N1. This finding, they add, should help allay concerns about the potential consequences of an accidental release of the 1918 influenza virus from high-containment laboratories or its possible use as a bioterror weapon.

Adolfo Garcia-Sastre, Ph.D., of Mount Sinai School of Medicine, New York, led the research. Groups of mice were exposed to lethal amounts of the 1918 influenza virus 14 or 28 days after receiving a 2009 H1N1 influenza vaccine; a seasonal H3N2 influenza vaccine (not designed to protect against H1N1 virus); or no vaccine. All of the 2009-H1N1-vaccinated mice survived. Unvaccinated mice and mice that received the H3N2 vaccine all died. (A group of mice vaccinated with a seasonal flu vaccine designed to protect against a 2007 strain of H1N1 were mostly protected from lethal challenge; 80 percent of the mice in that group survived.)

The researchers also injected mice with blood serum taken from people who had received 2009 H1N1 influenza vaccine. The serum, which contained antibodies against 2009 H1N1 influenza virus, protected the mice from death when they were later exposed to the 1918 H1N1 influenza virus. All the experiments involving the 1918 virus were conducted under biosafety-level-3 conditions.

More information about NIAID research on influenza is available at the NIAID Flu Web portal.

ARTICLE:

RA Medina *et al.* Pandemic 2009 H1N1 vaccine protects against 1918 Spanish influenza virus. *Nature Communications* DOI: 10.1038/ncomms1026 (2010).

WHO:

Anthony S. Fauci, M.D., Director, NIAID, and Rachelle Salomon, Ph.D., program officer for basic research and diagnostics, Respiratory Diseases Branch, Division of Microbiology and Infectious Diseases, NIAID, are available for comment.

CONTACT:

To schedule interviews, please contact Anne A. Oplinger, 301-402-1663, niaidnews@niaid.nih.gov.

NIAID conducts and supports research—at NIH, throughout the United States, and worldwide—to study the causes of infectious and immune-mediated diseases, and to develop better means of preventing, diagnosing and treating these illnesses. News releases, fact sheets and other NIAID-related materials are available on the NIAID Web site at <http://www.niaid.nih.gov>.

The National Institutes of Health (NIH)—The Nation's Medical Research Agency—includes 27 Institutes and Centers and is a component of the U. S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical and translational medical research, and it investigates the causes, treatments and cures for both common and rare diseases. For more information about NIH and its programs, visit <http://www.nih.gov>.

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