

Research may lead to improved vaccines for respiratory infections

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A collaborative project between researchers at the Trudeau Institute and their colleagues at St. Jude Children's Research Hospital in Memphis, Tenn., offers new insights that may lead to an improved strategy to protect against the influenza virus and other viruses that infect the respiratory tract.

The study examines the migration of [white blood cells](#) to the mucosal tissues of the nose in response to a viral infection.

"As a result of this study, we learned that cells arrive early during the infection and persist at the site for months afterwards, providing a first line of defense against a second infection with the virus," said David L. Woodland, Ph.D., president and director of the Trudeau Institute and one of the study's authors.

"These cells are 'soldiers' that guard nasal passages and combat viruses at their site of entry. In the future, a single application of [vaccine](#) by [nasal spray](#) or drops may be all that is needed for long-term protection against some serious respiratory virus infections," said Dr. Julia L. Hurwitz, Ph.D., Full Member of the Department of Infectious Diseases at St. Jude Children's Research Hospital.

This new information, reported in the current issue of the scientific journal *Virology*, has major implications for future vaccine research and could lead to the development of vaccines designed to promote immunity to respiratory infections.

"The migration patterns and characteristics of these cells are of particular interest, since they are the very cells one would like to elicit with a vaccine," said Woodland.

Scientists are working toward the ultimate goal of developing a universal [flu vaccine](#), capable of protecting against all strains of flu, including seasonal and those that develop into pandemics. Vaccines for the parainfluenza viruses and respiratory syncytial virus are also being sought. The Trudeau and St. Jude research groups are optimistic that this new information is an important contribution to that end.

Provided by Trudeau Institute

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