

Fight Against Respiratory Viruses Nasal Vaccine will be Helpful

The advent of new variants of [COVID-19](#) such as omicron and delta viruses caused scientists to study the effectiveness of existing vaccines and boosters against novel strains of this virus. Now a team of scientists from Yale University found that intranasal vaccine could be more effective against respiratory viruses including new variants of COVID-19, inducing much stronger immune responses compared to traditional injection-delivered vaccines.

[Immunoglobulin S \(IgA\) antibodies](#) are important components of immune system and are mainly produced by mucosal surfaces in the body. These antibodies are mostly observed in the gut, nose, and lungs. The nasal vaccine is developed to directly train mucous membranes in the nose to attack particular airborne pathogens to mount an immune response the moment a virus enters a human body. This novel research revealed how nasal vaccine induced effective IgA responses as well as it promoted a strong immunity against more than one virus strain in a vaccine. The scientists conducted many tests on mice to compare the effectiveness of an [influenza vaccine](#) delivered traditionally through injection and intranasally. The team exposed those mice to various influenza strains. Further, the team found that the animals that were administered with nasal vaccine had better immune response to a variety of strains of influenza virus compared to the mice that received vaccine through injections.

Moreover, the scientists also found that the nasal vaccine induced IgA responses in [nasal mucous membranes](#), however, they also noticed significant IgA secretion levels in the lungs too. Furthermore, the animals who received the vaccine through injection did not show any lung and nasal IgA responses. The scientists used [influenza viruses](#) in these experiments, however, the team is now studying the COVID-19 vaccine in animals by conducting same experiments.

