

“NEWS RELEASE”

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BIOQUAL Announces Publication of an Investigational COVID-19 vaccine candidate that prevents severe clinical disease in animals

Rockville, MD. – A major objective of a CoVID-19 vaccine is to prevent severe disease onset in SARS-CoV-2 infected people. Beth Israel Deaconess Medical Center (BIDMC) immunologist Dan H. Barouch, MD, PhD, and colleagues, including members of the staff at BIOQUAL, showed in recently published previous work that a candidate COVID-19 vaccine raised neutralizing antibodies that robustly protected non-human primates (NHPs) against SARS-CoV-2, the virus that causes COVID-19. In new research published September 3 in [Nature Medicine](#), Barouch and colleagues demonstrated that the optimal vaccine elicited robust immune response in Syrian golden hamsters and prevented severe clinical disease — including weight loss, pneumonia, and death.

The vaccine — developed through a collaboration between BIDMC and Janssen Pharmaceutical Companies of Johnson & Johnson (Janssen) — uses a common cold virus, called adenovirus serotype 26 (Ad26), to deliver the SARS-CoV-2 spike protein into host cells, where it stimulates the body to raise immune responses against the coronavirus.

In the current study, the researchers immunized Syrian golden hamsters with a single injection of the Ad26-based SARS-CoV-2 vaccine, which induced neutralizing antibodies in all animals. Four weeks later, the animals were exposed to a high dose of SARS-CoV-2. Vaccinated animals lost less weight and had less virus in their lungs and other organs than unvaccinated control animals. Vaccinated animals also demonstrated lower mortality. Moreover, the researchers found that neutralizing antibody responses were inversely correlated with weight loss and viral loads in respiratory tissues. Ad26.COVS.2 is currently being evaluated in clinical studies to establish the performance of the vaccine candidate in humans.

In July 2020, investigators at Janssen, Beth Israel Deaconess Medical Center (BIDMC), and other institutions initiated a first-in-human Phase 1/2 clinical trial of the Ad26.COVS.2 vaccine in healthy volunteers. Pending clinical trial out-comes, the Ad26.COVS.2 vaccine is on track to start a phase 3 efficacy trial in up to 60,000 participants in September 2020.

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