

Vaccination Strategy for COVID-19

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The SARS-CoV-2 responsible for COVID-19 enters human cells by using its spike protein to bind to a cell surface receptor, ACE2¹. The receptor-binding domain of the spike protein consists of a specialized “head” region that mediates binding to ACE2. At present, there are a few vaccines that possibly promote the production of antibodies that recognize the head region of the spike receptor-binding domain and block the entry of SARS-CoV-2 into cells²⁻⁴. Mice immunized with genetically engineered the receptor-binding domain of the SARS-CoV-2 spike protein, covering its head region in additional sugar molecules, could shield the head region and boost the production of antibodies against the unshielded core region of the receptor-binding domain.⁵

Of note: the most recent development on COVID-19 vaccine has released the Novavax COVID-19 vaccine (NVX-CoV2373)⁶, a protein-based vaccine engineered from the genetic sequence of the first strain of SARS-CoV-2 the virus that caused COVID-19. The vaccine was created using Novavax’ recombinant nanoparticle technology to generate antigen derived from the coronavirus spike(s) protein and is formulated with Novavax patent saponin-based Matrix-MTM adjuvant to enhance the immune response and stimulate high levels of neutralizing antibodies. The Novavax COVID-19 vaccine contains purified protein antigen and can neither replicate nor cause COVID-19.

Documents Used for Editing the Article:

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