

## Bharat Biotech partners with ViroVax for boosting immune response of Covaxin

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Bharat Biotech has announced its novel Coronavirus vaccine COVAXIN® approved for human trials, will use adjuvant Alhydroxiquim-II to boost immune response and longer lasting immunity. The technology is being used under this licensing agreement with Kansas-based ViroVax LLC.

COVAXIN® is an inactivated vaccine derived from a strain of SARS-CoV-2 virus, isolated at the National Institute of Virology (NIV), Pune, an Indian virology research institute. The inactivated virus is formulated with ViroVax's adjuvant to produce the vaccine candidate.

Hyderabad based Bharat Biotech is currently conducting Phase II human trials of COVAXIN after receiving approval from the Drug Controller General of India (DCGI).

Dr. Krishna Ella, Chairman and Managing Director of Bharat Biotech, said, "There is critical need for development and availability of adjuvants that elucidate mechanisms of action inducing greater antibody responses to vaccine antigens, thus resulting in long-term protection against pathogens. Adjuvants also enhance the sustainability of the global vaccine supply on account of their antigen-sparing effect. Our partnership with ViroVax resonates with Bharat Biotech's relentless efforts towards developing safe and effective vaccines coupled with long term immunity."

Dr. Ella further added, "The widely used adjuvant Aluminium hydroxide in the development of SARS CoV-2 vaccines is known to induce a Th2 based response (which are important for eradication of extracellular parasites and bacterial infection). The Th2 based response has a theoretical risk of vaccine associated enhanced respiratory diseases (VAERD or ADE). We have used Imidazoquinoline class of adjuvants (TLR7/8 agonists), which are known to induce Th1 based response which further reduces the risk of ADE (Anti-Body Dependent Enhancement).

In the preclinical studies and animal challenge models (Syrian Hamster and Rhesus Macaques) we have shown that COVAXIN® induced Th1 based response due to the use of Algel-IMDG (chemisorbed imidazoquinoline onto the aluminum hydroxide gel) as an adjuvant."

"ViroVax is delighted to partner with Bharat Biotech. This has been possible because of support from the National Institutes of

Health,” said Dr. Sunil David of ViroVax.

In response to the COVID-19 pandemic, ViroVax also received supplemental funding for the development of subunit vaccine constructs for the prevention of COVID-19, and for the discovery and development of therapeutics for treating COVID-19. ViroVax is evaluating a subunit vaccine candidate and has identified potential antiviral therapeutics. It is currently in the process of testing the efficacy of these compounds. ViroVax is supported by contract HHSN272201800049C from the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health.