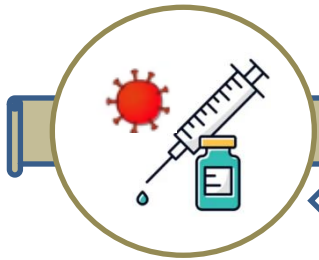




Biotech Consortium India Limited



UNIVERSAL INFLUENZA VACCINE CANDIDATES

TECHNOLOGY AVAILABLE FOR TRANSFER

UNMET NEED AND OPPORTUNITY

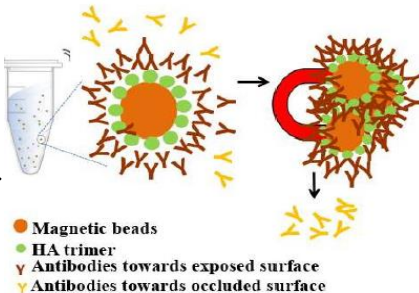
Traditional flu vaccines need yearly updates because the virus's surface proteins constantly mutate. A new strategy should be used to develop vaccines that target the more stable, internal parts of the virus, offering broader and more long-lasting protection.

Designing vaccine candidates that express these *occluded but conserved* regions could lead to broader and longer-lasting protection against multiple influenza strains.

TECHNOLOGY

The present invention focuses on the development of HA based immunogens; Open HA trimer and engineered HA, that expose structurally occluded, conserved epitopes of the influenza virus hemagglutinin (HA) protein. Stabilizing mutation maintains the desired conformations of both immunogens. Purified proteins retain the property towards recognition of already known/characterized antibodies as well as towards highly conserved occluded epitopes directed antibodies (conserved in H1N1, H3N2, H5N1 and H7N9)

Serum depletion assay showing generation of antibodies directed towards the conserved epitopes



STAGE OF DEVELOPMENT

The technology has been developed at the lab scale (TRL-3), and Challenge studies have been conducted in animal models **with lethal dose of H1N1 (PR8) and H3N2 (X31) viruses.**

UNIQUE SELLING PROPOSITION

- Provides a synergistic vaccine composition of open trimer or an engineered HA or a combination of both along with adjuvant
- Targets the occluded, highly conserved epitopes of the virus, that have remained conserved throughout the 100-year history of the influenza virus
- No need to constantly update the vaccine's composition every season
- Claims broader protection

RESULTS

- Pre-clinical in vivo PoC established
- Complete protection from H1N1 and H3N2
- Th1, upregulation of memory and IFN γ directed cellular responses
- Conserved epitope directed candidate; Targeting H1N1, H3N2, H5N1, H7N9 and other subtypes

INTELLECTUAL PROPERTY

Indian patent and PCT application filed

LICENSING OPPORTUNITY

BCIL is looking for an industrial partner to license this technology for commercialization.

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