

Docket #: S22-373

Broadly neutralizing antibodies against sarbecoviruses

Stanford scientists have developed broadly neutralizing antibodies against sarbecoviruses, including SARS-CoV-2 related Clade 1b, SARS-CoV related Clade 1a and Clade 3 viruses, paving the way for future vaccines and therapeutics.

One of the primary challenges in the fight against rapidly evolving pathogens, such as SARS-CoV-2, is the development of broad-spectrum countermeasures that offer protection against multiple variants. This invention presents a promising solution: potent monoclonal antibodies (mAbs) against sarbecoviruses elicited by an AS03-adjuvanted monovalent subunit vaccine. These antibodies have demonstrated a high degree of effectiveness against several SARS-CoV-2 variants, including the Omicron sublineages, and other related viruses. Over time, these mAbs not only retain their potency but also expand their breadth, suggesting that they could provide broad protection against current and future variants.

Stage of Research

Research - *in vivo*

Applications

- **Vaccine Development:** Blueprint for broad-spectrum vaccines against multiple SARS-CoV-2 variants
- **Antiviral Therapeutics:** Potential basis for prophylactic and treatment options against SARS-CoV-2

Advantages

- **Broad-Spectrum Efficacy:** Neutralizes multiple SARS-CoV-2 variants and other sarbecoviruses.

- **Potency and Durability:** Maintains effectiveness and increases breadth over time.
- **Future Vaccine Design:** Offers valuable insights for designing future vaccines.
- **Prophylactic Protection:** Demonstrates protective efficacy against multiple SARS-related viruses in mice.

Publications

- Feng, Y., Yuan, M., Powers, J. M., Hu, M., Munt, J. E., Arunachalam, P. S., ... & Pulendran, B. (2023). [Broadly neutralizing antibodies against sarbecoviruses generated by immunization of macaques with an AS03-adjuvanted COVID-19 vaccine](#). Science Translational Medicine, 15(695).

Patents

- Published Application: [WO2024086566](#)

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