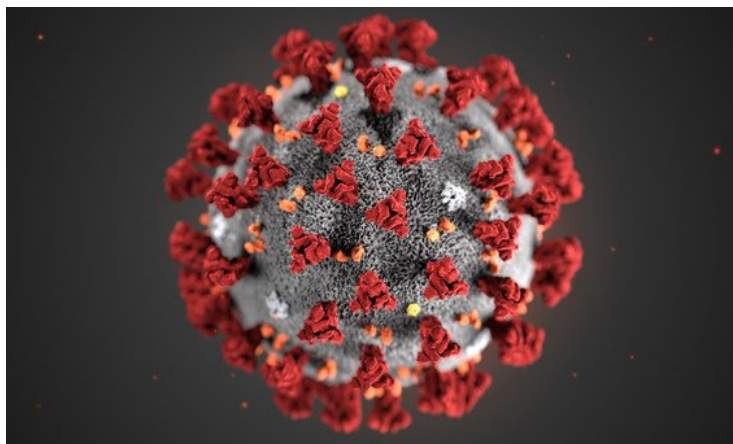


Japan discovers host immune-dependent novel anti-coronavirus antibody

February 16, 2022 | News

The newly identified antibody may be suitable to treat patients at high risk of disease of greater severity



The National Institutes of Biomedical Innovation, Health and Nutrition (NIBIOHN), in partnership with Shionogi & Co. in Japan, has successfully identified a novel antiviral antibody for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), its variants, and closely associated coronavirus species.

The newly identified antibody binds to virus spike proteins displayed on the infected cell surface. The bound antibody supports the immune response of infected individuals to attack the infected cells via antibody-dependent cell-mediated cytotoxicity (ADCC).

Unlike many other antibody drugs, the newly identified antibody's binding site (epitope) resides in a specific part of the spike structure poorly susceptible to mutation. Therefore, the antibody reacts with various virus variants, including the Omicron variant.

Moreover, because the epitope structure with few mutations is common among many other related coronaviruses, the newly identified antiviral antibody is expected to show efficacy against a broad spectrum of coronaviruses, including potential variants in the future.

In current clinical use, antibody cocktails and other neutralizing antibodies target individuals with mild infection. In contrast, the newly identified antibody may be suitable to treat patients at high risk of disease of greater severity. In addition, a "broad-spectrum antiviral antibody" should be ideal for emergency use in the event of a probable new coronavirus pandemic in the future. NIBIOHN will conduct further research.