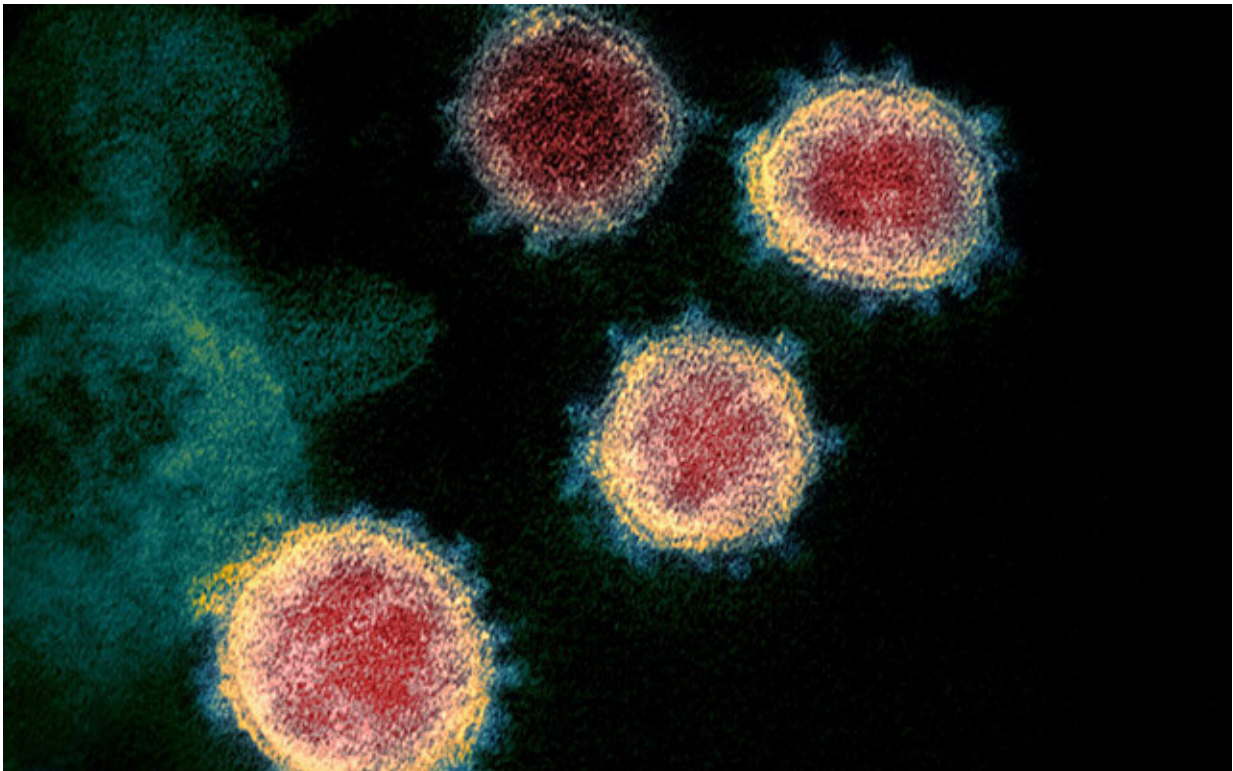


Small study suggests COVID-19 antibody test shows promise

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A colored scanning electron micrograph of the SARS-CoV-2 virus. Credit: NIAID

A test that can detect the presence of antibodies to the SARS-CoV-2 virus in the blood of human patients is described in *Nature Medicine*. This assay, tested in 16 patients, may help to identify individuals whose

plasma contains antibodies to SARS-CoV-2, which could potentially be used to treat other patients.

Tests that detect the presence of SARS-CoV-2 RNA are widely used to diagnose COVID-19. However, assays that can measure the presence of antibodies to the virus may potentially help determine the rate of infection in a population.

Florian Krammer and colleagues report the development of an enzyme-linked [immunosorbent assay](#), which can be used to detect the presence of antibodies to SARS-CoV-2. For the assay, the authors created two versions of the spike [protein](#) found on the surface of the virus. The spike protein mediates entry into host cells and is targeted by antibodies during other coronavirus infections. The first version encompassed the full spike protein, while the second was limited to the receptor-binding domain (a smaller section of the spike protein).

Using 16 plasma and serum samples (fluid components of the blood) from patients with SARS-CoV-2 infections, the authors observed that all of the samples produced a positive result to both versions of the spike protein in the assay. In general, the authors found that a stronger reaction was observed against the full-length spike protein, which may suggest a greater number of antibody-binding sites on the larger protein. In tests involving 50 serum samples collected from participants prior to the outbreak of SARS-CoV-2 (negative controls), they found very low or no reactivity to the proteins in the assay.

The authors note that their [assay](#) is relatively quick and simple to carry out and does not involve handling the live virus. However, they caution that samples from patients with SARS-CoV-1 or Middle Eastern Respiratory Syndrome CoV were not included in the research, so it is not known whether [antibodies](#) to these viruses would also produce a positive result. Further research with larger sample sizes will also be needed.

More information: Fatima Amanat et al. A serological assay to detect SARS-CoV-2 seroconversion in humans, *Nature Medicine* (2020). [DOI: 10.1038/s41591-020-0913-5](https://doi.org/10.1038/s41591-020-0913-5)

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