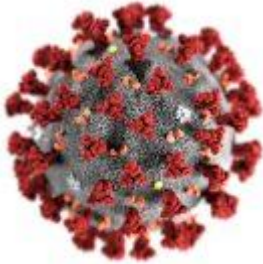


What evidence is there for pre-existing antibody responses to SARS-CoV-2?



Disclaimer: This article is a summary of a pre-print published on BioRxiv. This research article at the time of writing this summary has not been peer-reviewed.

Using multiple assays for detecting antibodies to the SARS-CoV-2 Spike (S) glycoprotein, a recent pre-peer reviewed paper in bioRxiv shows “pre-existing immunity in uninfected and unexposed humans to the new coronavirus.” The authors were able to detect Spike-reactive IgG in SARS-CoV-2-uninfected individuals with recent other Coronavirus (HCoV) infections using a sensitive flow cytometry assay. When they examined patients with SARS-CoV-2 symptoms, they found higher titres of SARS-CoV-2 Spike-reactive IgG antibodies as well as IgM and IgA antibodies. They also found that sera from individuals with HCoV variably reacted with SARS-CoV-2 Spike and nucleocapsid (N), but not with the S1 subunit or the receptor binding domain (RBD). Interestingly, they found that the serum from these “immune” individuals had neutralising activity against SARS-CoV-2 Spike pseudotypes. The authors conclude: “Cross-reactivity between seasonal HCoVs and the pandemic SARS-CoV-2 needs to be carefully considered in the development and interpretation of assays for precise detection of SARS-CoV-2-specific antibodies.” The question also remains whether such pre-existing cross-react humoral immunity could provide any degree of protection from developing COVID-19?

Preprint: K. Ng et al. [Pre-existing and de novo humoral immunity to SARS-CoV-2 in humans](#), bioRxiv

Journal Article: V. van der Hiede, June 2020. [SARS-CoV-2 cross-reactivity in healthy donors](#). Nature Reviews Immunology

Summary by Clive Gray