



Level Differences of Plasma, Nasal, and Salivary Antibody to SARS-CoV-2 (COVID-19) During Natural Infection and After COVID-19 Vaccination

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Cellular or antibody responses is measured in the most studies of immunity to SARS-CoV-2 (COVID-19) [1]. Nevertheless, if ever SARS-CoV-2 (COVID-19) present in the plasma, the infectious virus is rarely infects the nasal and conjunctival mucosal surfaces [1]. In COVID-19-infected-unvaccinated and unvaccinated-COVID-19-uninfected individuals, the levels of nasal and salivary anti-spike antibody correlated significantly with plasma antibody [1,2]. The reported mean correlations for titers in plasma and saliva for IgG and IgA were moderate ($p = 0.55$; 95% CI: 0.38-9.73) and weak ($p = 0.28$; 95% CI: 0.12-0.44), respectively [2]. A previous systematic review demonstrated that previous-COVID-19-infected-vaccinated individuals demonstrated boosting anti-spike antibody levels in the nose or saliva less than in plasma [1].

In conclusion, potent immune response induced by COVID-19 mucosal vaccines at the sites of SARS-CoV-2 (COVID-19) infection is urgently needed. Persistent mucosal antibody may not indicate persistent increase of SARS-CoV-2 plasma antibody levels.

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