

IgG-2 antibody as a Potential Target for COVID-19 Vaccine

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Abstract

The global threat of COVID-19 is still continued with no commercially available vaccine or drug yet. While the application of convalescent therapy is mostly beneficial, for critically ill patients, the detrimental effect associated with some antibodies is also reported. The immunoglobulin G (IgG) antibody in response to severe acute respiratory syndrome coronavirus-2 (SARS-COV-2) infection is described, albeit the lack of defining whether the difference in subclasses has a beneficial or detrimental role. IgG2 has limited ability to activate innate immune cells and complement-mediated inflammation, which has been described inversely in SARS-COV-2 pathogenesis. The expansion of IgG2 is promoted by interferon γ (IFN- γ), whereas there is a low level of IFN- γ in COVID-19 patients. Therefore, this review describes the importance of targeting IgG2, with IFN- γ in minimizing the SARS-COV-2 associated inflammation, and may provide insight in the design of vaccine to COVID-19.

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