

# Review of: "The SARS-CoV-2 Spike protein disrupts human cardiac pericytes function through CD147-receptor-mediated signalling: a potential non-infective mechanism of COVID-19 microvascular disease"

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This paper focuses on a key aspect of SARS-CoV2 pathogenesis. Namely, the key role that the spike protein ALONE (without infectious virus) plays in causing many of the manifestations of severe COVID-19. The authors do an excellent job by focusing on the heart and showing that the pericytes's ACE2 and CD147 receptors both play roles in allowing circulating spike protein to induce heart damage as well as contribute to the cytokine storm. Similar mechanisms are now clearly also at play in CNS manifestation of severe COVID-19. These papers have put to rest the notion that the cardiac/CNS and other systemic manifestations of severe COVID-19 reflect widespread dissemination of the infectious virus.