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Reasons why new coronavirus, SARS-CoV-2 infections are likely to spread

The ongoing outbreak of Coronavirus Disease 2019 (COVID-19) originally emerged in China during December 2019 and had become a global pandemic by March 2020. COVID-19 is caused by a novel coronavirus, severe acute respiratory syndrome coronavirus type 2 (SARS-CoV-2). Two other coronaviruses have caused world-wide outbreaks in the past two decades, namely SARS-CoV (2002–2003) and Middle East respiratory syndrome coronavirus (MERS-CoV) (2012–present). The surface spike glycoprotein (S), which is critical for virus entry through engaging the host receptor and mediating virus host membrane fusion, is the major antigen of coronaviruses. Recent studies provide molecular insights into antibody recognition of SARS-CoV-2. In this review, we discuss the relationship between the spike glycoprotein of SARS-CoV-2 and its receptor, angiotensin converting enzyme 2 (ACE2) including the latest findings.