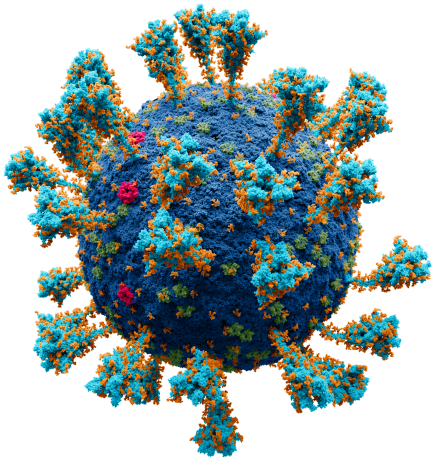
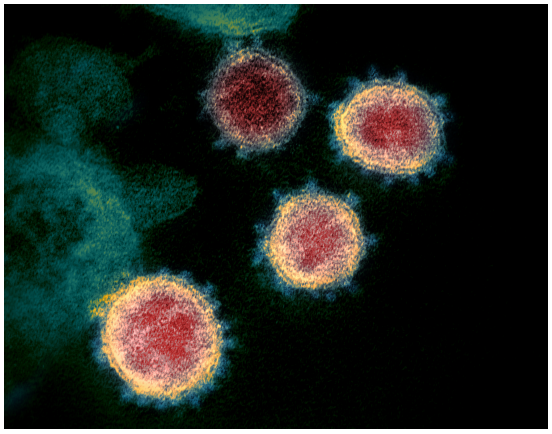
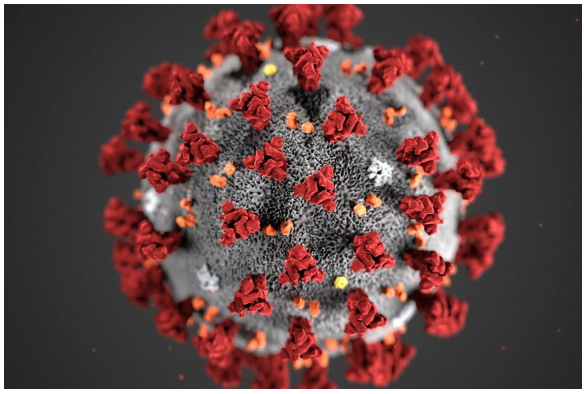
SARS-CoV-2



Realm	Riboviria
Kingdom	Orthornavirae
Phylum	Pisuviricota
Class	Pisoniviricetes
Order	Nidovirales
Family	Coronaviridae
Genus	Betacoronavirus
Subgenus	Sarbecovirus
Species	Severe acute respiratory syndrome–related coronavirus
Virus	Severe acute respiratory syndrome coronavirus 2

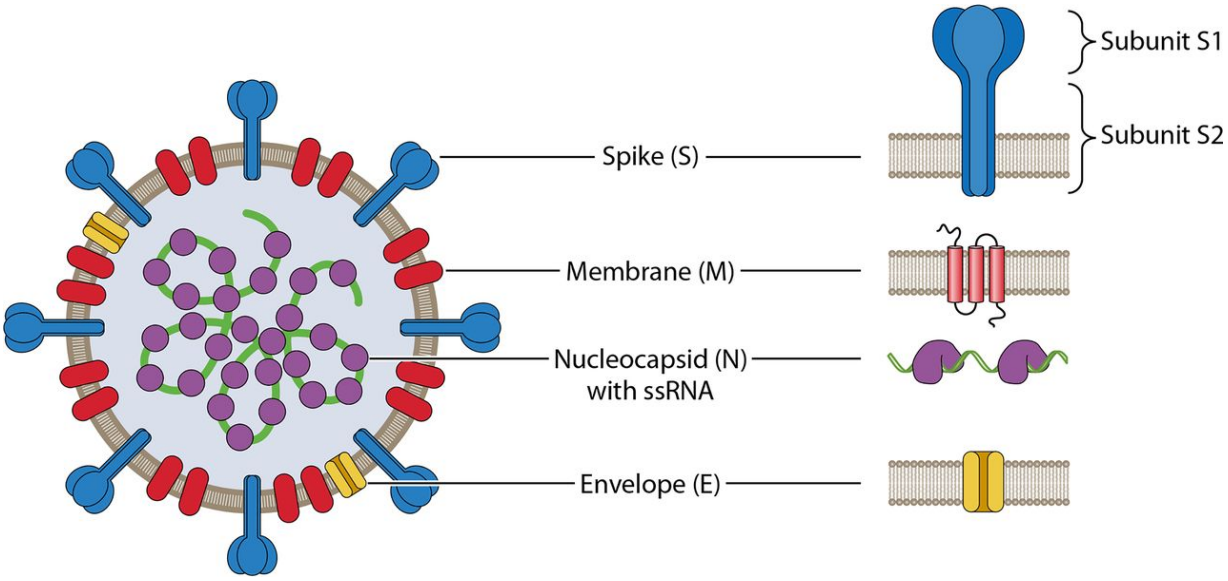


Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a strain of coronavirus that causes COVID-19 (coronavirus disease 2019), the respiratory illness responsible for the ongoing COVID-19 pandemic.The virus previously had a provisional name, 2019 novel coronavirus (2019-nCoV), and has also been called human coronavirus 2019 (HCoV-19 or hCoV-19). First identified in the city of Wuhan, Hubei, China, the World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020, and a pandemic on 11 March 2020. SARS-CoV-2 is a positive-sense single-stranded RNA virus that is contagious in humans.



SARS-CoV-2 is a virus of the species *severe acute respiratory syndrome–related coronavirus* (SARSr-CoV), related to the SARS-CoV-1 virus that caused the 2002–2004 SARS outbreak. It is of

zoonotic origins and has close genetic similarity to bat coronaviruses, suggesting it emerged from a bat-borne virus.Research is ongoing as to whether SARS-CoV-2 came directly from bats or indirectly through any intermediate hosts.The virus shows little genetic diversity, indicating that the spillover event introducing SARS-CoV-2 to humans is likely to have occurred in late 2019.



Epidemiological studies estimate that, in the December 2019 – September 2020 period, each infection resulted in an average of 2.4 to 3.4 new ones when no members of the community are immune and no preventive measures are taken. However, some subsequent variants have become more infectious. The virus primarily spreads between people through close contact and via aerosols and respiratory droplets that are exhaled when talking, breathing, or otherwise exhaling, as well as those produced from coughs or sneezes. It enters human cells by binding to angiotensin-converting enzyme 2 (ACE2), a membrane protein that regulates the renin–angiotensin system.