

# Special report highlights potential therapeutic agents, vaccines for COVID-19

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Since the first reports of a new coronavirus disease in Wuhan, China, in December 2019, COVID-19 has spread rapidly across the globe, threatening a pandemic. Now, researchers from CAS, a division of the American Chemical Society specializing in scientific information solutions, have issued a special report in *ACS Central Science*. In the report, they provide an overview of published scientific information on potential therapeutic agents and vaccines for the virus, with an emphasis on patents.

According to the World Health Organization, as of March 2, 2020, COVID-19 caused almost 90,000 confirmed illnesses and more than 3,000 deaths. The responsible virus, known as SARS-CoV-2, primarily attacks the lower respiratory system to cause viral pneumonia, but it may also affect the gastrointestinal system, heart, kidney, liver and central nervous system. If SARS-CoV-2 is not quickly contained, the virus could have devastating effects on people's lives, worldwide health systems and the global economy. To assist with research efforts to discover therapies and vaccines for COVID-19, Cynthia Liu led a group of CAS

scientists who analyzed the published [scientific data](#) on SARS-CoV-2 and related coronaviruses.

The researchers reviewed the rapidly growing body of journal articles related to COVID-19 and SARS-CoV-2, as well as patents having to do with human coronaviruses. From the last week of 2019 through March 1, 2020, more than 500 journal articles related to the virus were published electronically or in print, with numbers steadily increasing week-by-week. Topics included [clinical manifestations](#), treatment regimens, viral structure and mechanisms, antiviral agents, and diagnostics. To date, more than 500 patents have been issued for vaccines and for therapeutic agents, such as antibodies, cytokines and nucleic acids, that could help prevent or treat coronavirus infections. Because SARS-CoV-2 is similar to other coronaviruses, such as SARS-CoV-1 and MERS-CoV, the researchers highlighted therapies previously explored for these other viruses that could also be applicable to SARS-CoV-2.

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**More information:** Cynthia Liu et al. Research and Development on Therapeutic Agents and Vaccines for COVID-19 and Related Human Coronavirus Diseases, *ACS Central Science* (2020). [DOI: 10.1021/acscentsci.0c00272](https://doi.org/10.1021/acscentsci.0c00272)

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