

**GeoVax has 3-4 Vaccine Candidates in development to respond to the COVID-19 Pandemic. Here is some of the media coverage.**

**Print:**

[A COVID-19 Vaccine, Outsourcing, And Made In The USA](#)



## Developing Covid-19 Vaccines at Pandemic Speed - GeoVax listed- Nonreplicating Vector

Vaccine Platforms, Their Attributes, and the Status of Vaccine Candidates. <sup>20</sup>						
Technology	Attributes			Current Scale	Candidates in Preclinical Development	Candidates in Human Trials
	Single Dose	Licensed Platform	Speed			
DNA	No	No	Fast	Medium	Takis/Applied DNA Sciences/Evvivax Zydus Cadila	Inovio Pharmaceuticals, Phase 1 (NCT04336410)
Inactivated	No	Yes	Medium	Medium to high		Sinovac, Phase 1 (NCT04352608) Inactivated Beijing Institute of Biological Sciences/Wuhan Institute of Biological Sciences, Phase 1 (ChiCTR2000031809)
Live attenuated	Yes	Yes	Slow	High	Codagenix/Serum Institute of India	
Nonreplicating vector	Yes	No	Medium	High	GeoVax/BravoVax Janssen Pharmaceutical Companies Altimmune Greffex Vaxart ExpresS2ion	CanSino Biologics, Phases 1 and 2 (ChiCTR2000030906 and ChiCTR2000031781) University of Oxford, Phase 1/2 (NCT04324606)
Protein subunit	No	Yes	Medium to fast	High	WRAIR/U.S. Army Medical Research Institute of Infectious Diseases Clover Biopharmaceuticals Inc./GSK Vaxil Bio AJ Vaccines Genrex/EpiVax/University of Georgia Sanofi Pasteur Novavax Heat Biologics/University of Miami University of Queensland/GSK/ Baylor College of Medicine iBio/CC-Pharming	
Replicating viral vector	Yes	Yes	Medium	High	Zydus Cadila Institut Pasteur/Themis Tonix Pharma/Southern Research	
RNA	No	No	Fast	Low to medium	Fudan University/Shanghai JiaoTong University/RNACure Biopharma China CDC/Tongji University/Stermina Arcturus/Duke-NUS Imperial College London Curevac BioNTech/Pfizer	Moderna/NIAID (NCT04283461)
Uncertain					University of Pittsburgh University of Saskatchewan ImmunoPrecise MIGAL Galilee Research Institute Doherty Institute Tulane University	

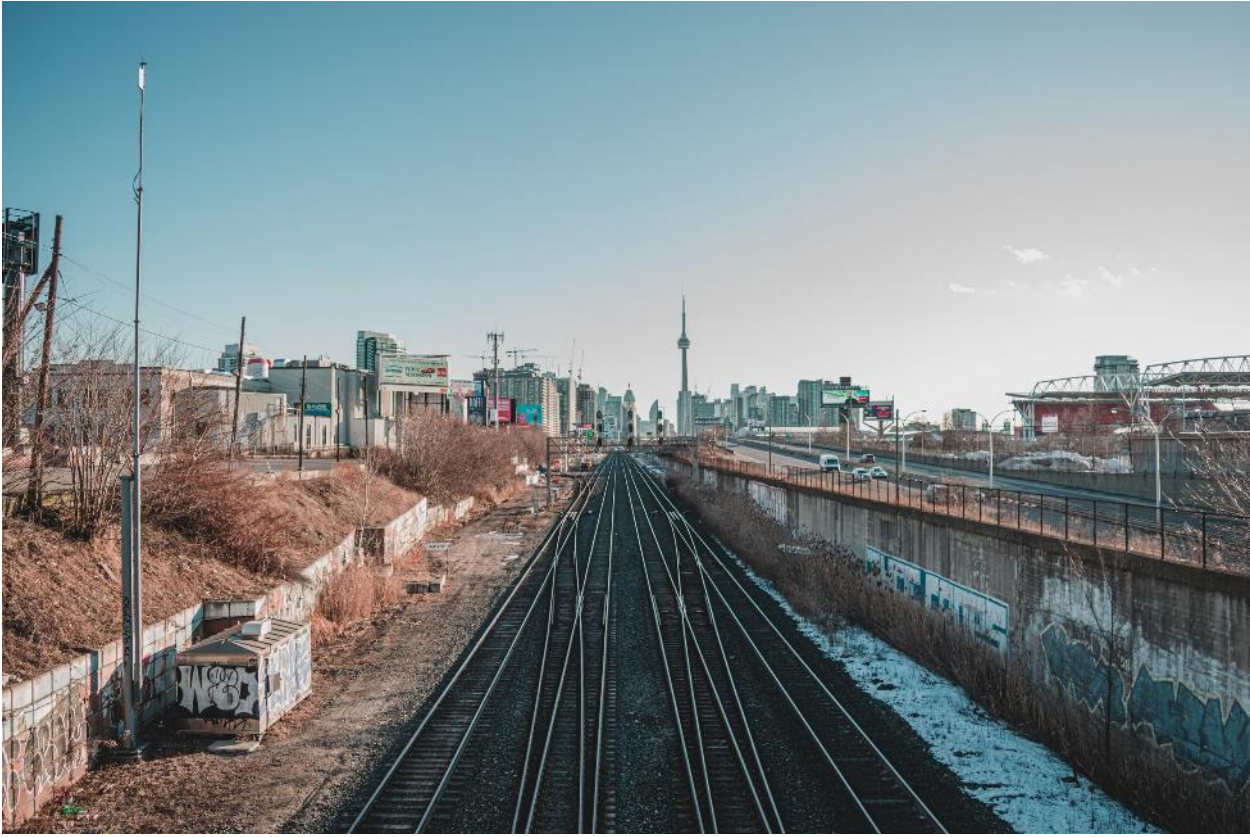
## [COVID-19 Vaccine Development: An Interview With GeoVax](#)



## [In the race to treat COVID-19, Georgia companies stake a claim](#)



[GeoVax Progresses in Coronavirus \(COVID-19\) Vaccine Development Program](#)



# The race to stop COVID-19 - GeoVax listed here

INFOGRAPHIC

## THE RACE TO STOP COVID-19

As a new strain of coronavirus threatens public health systems across the globe, researchers are racing to develop a vaccine.

DAWN CONNELLY & JULIA ROBINSON

### In context

Compared with some outbreaks of novel respiratory disease, the death rate for coronavirus disease 2019 (COVID-19) is currently low. This could reduce further as the global outbreak progresses and milder cases are detected. Pandemic (H1N1) 2009 influenza was estimated to infect 1.5 billion people, with a death rate of 1 in 10,000 (0.02% seasonal flu has a similar death rate, but infects up to 4 billion).

2002 SARS: Death rate 9.6%  
2009 H1N1: Death rate 0.44%  
Ongoing COVID-19: Death rate 2.4%

Size of infected population: 1.5 billion (SARS), 1.5 billion (H1N1), 1.5 billion (COVID-19)

### Case fatality rates for COVID-19

By age:

Age group (years)	Case fatality rate (%)
0-9	0.0
10-19	0.0
20-29	0.0
30-39	0.0
40-49	0.0
50-59	0.0
60-69	0.0
70-79	0.0
80-89	0.0
90-99	0.0
100	0.0

By sex:

Sex	Case fatality rate (%)
Male	2.8%
Female	1.7%

### Global takeover

31 December 2019: The first cases of pneumonia with unknown cause in Wuhan, China, are reported. The first test is developed (Wuhan-2019-nCoV-1).

7 January 2020: The Chinese authorities identify the novel coronavirus and temporarily restrict mass gatherings. Some cases have been traced to the Wuhan market.

10 January 2020: The Chinese Center for Disease Control and Prevention releases the genome of SARS-CoV-2.

18 January 2020: The first SARS-CoV-2 patient is reported in China.

24 January 2020: The first test kit for coronavirus pneumonia (COVID-19) is reported in China.

31 January 2020: The first COVID-19 cases are confirmed in South Korea.

5 February 2020: The first COVID-19 case is reported in Italy.

26 February 2020: The first COVID-19 case is reported in the United Kingdom.

14 February 2020: China reports a significant increase in the number of cases reported in the rest of the world.

28 February 2020: The WHO reports the global spread of COVID-19.

Legend: Confirmed cases, Confirmed deaths, Confirmed recoveries, Total deaths.

### Symptoms and transmission

- Common symptoms: fever (60%), weakness (50%), cough (54%), muscle pain (44%), diarrhea breathing (28%).
- Less common symptoms: headaches (35%), dizziness (9%), stomach pain (2.2%), diarrhoea (0.8%), nausea and vomiting (0.7%).
- Incubation period: 0-14 days.
- Severity: data from 44,000 cases of COVID-19 in China suggest that 82% of cases are mild, 13% are severe and 4.7% are critical. Severe cases are more prevalent in older people and those with an existing long-term condition, such as cardiovascular disease, diabetes, respiratory disease or hypertension.
- Transmission: person-to-person spread between close contacts (0.8 metres) through respiratory droplets.
- Diagnosis: COVID-19 is suspected based on clinical symptoms and relevant travel history or close contact with infected individuals. Cases are only confirmed when there is a positive laboratory test.
- Treatment: treatment of COVID-19 is symptomatic, such as providing oxygen. Medicines specifically licensed for COVID-19 are not currently available, but clinical trials of several antiviral drugs are being conducted in China.

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### Vaccine development

There are five main approaches being taken to develop a vaccine against SARS-CoV-2, with several biotechnology companies, academic organisations and pharmaceutical companies employing different technologies in the race to bring their vaccine candidate to clinical trials. The World Health Organization (WHO) hopes that a vaccine will be available by October 2021.

- Viral vector vaccine:**
  - Organisations working on vaccine: Johnson & Johnson, GenScript, Lab and Biotech, University of Oxford and AstraZeneca, Takeda Pharmaceuticals and Southern Research, Almac, GenVec, Vaxxart, CanSino Biological, Zila Biotech, Inovio, Pasteur.
  - Estimated date of first human trials: June 2020.
- DNA vaccine:**
  - Organisations working on vaccine: Inovio Pharmaceuticals with Beijing, Advaccine Biotech, Applied DNA Sciences, Takeda Biotech and Eukaris, Zila Biotech.
  - Estimated date of first human trials: April 2020.
- RNA vaccine:**
  - Organisations working on vaccine: CureVac, Moderna and US National Institute of Allergy and Infectious Diseases, Biotech, Therapeutics, Tongji University and Chinese Center for Disease Control and Prevention, Imperial College London.
  - Estimated date of first human trials: April 2020.
- Live-attenuated vaccine:**
  - Organisations working on vaccine: Cadigen with Bharat Biotech of India.
  - Estimated date of first human trials: By August 2020.
- Protein-based vaccine:**
  - Organisations working on vaccine: Novartis, Chimerix Biopharmaceuticals with GSK, Baylor College of Medicine, University of Texas Medical Branch, New York Blood Center and Fudan University, China University of Aeronautics and Astronautics, University of Queensland, Australia, and Dynavax, Vaxart, Genentech, ExpreS200r, Vaxil Bio, Sanofi Pasteur, BioVOC-Pharming.
  - Estimated date of first human trials: By June 2020.

### Immune response:

- It is not known how strong the immune response needs to be to protect against SARS-CoV-2; therefore, some of the vaccines being developed may not work.
- Before candidates reach clinical trials, investigators must also ensure they induce protective immunity, not immunopathology, as was seen in early attempts to develop a SARS-CoV vaccine after it emerged in 2002.

Landscape of COVID-19 candidate vaccines

