

Government-funded Imperial College COVID-19 vaccine moves into first human trials

Clinical researchers will begin human trials of a new coronavirus vaccine developed by researchers at [Imperial College London](#).

Beginning this week, the study will be the first time the vaccine has been trialled in humans and will test whether it is well-tolerated and produces an effective immune response against COVID-19.

This latest milestone follows [£41 million in government funding](#) towards the development of Imperial College London's vaccine. A further £5 million of philanthropic gifts, including from hundreds of members of the public, has accelerated the work. The trials will be the first test of a new self-amplifying RNA technology, which has the potential to revolutionise vaccine development and enable scientists to respond more quickly to emerging diseases.

The vaccine has undergone rigorous pre-clinical safety tests and has been shown to be safe and produced encouraging signs of an effective immune response in animal studies. Over the coming weeks, 300 healthy participants will receive two doses of the vaccine.

Many traditional vaccines are based on a weakened or modified form of virus, or parts of it, but the Imperial vaccine is based on a new approach. It uses synthetic strands of genetic code (called RNA), based on the virus's genetic material.

If the vaccine shows a promising immune response, then larger Phase III trials would be planned to begin later in the year with around 6000 healthy volunteers to test its effectiveness.

Ultimately, the researchers hope that if clinical trials are successful, the vaccine could provide protection against COVID-19 both in the UK and around the world.

Professor Robin Shattock, from the Department of Infectious Disease at Imperial and who is leading the work, said:

The COVID-19 pandemic has claimed thousands of lives and had a huge impact on daily life. In the long-term, a viable vaccine could be vital for protecting the most vulnerable, enabling restrictions to be eased and helping people to get back to normal life.

Business Secretary, Alok Sharma, said:

I am incredibly proud the vaccine being developed by Imperial College London is one of the world's front-runners. We are fully backing its research with over £40 million government funding, as part of our wider vaccines development programme.

The fast progress of Imperial's vaccine is testament to the ingenuity and tenacity of Britain's researchers. If these trials are successful a vaccine will not only help us tackle coronavirus but also emerging diseases now and into the future.

Kate Bingham, Vaccine Taskforce Chair, said:

I am delighted that Imperial College have so quickly advanced to the clinical trial stage. Their self-amplifying technology has the potential to be a real game-changer, not only for a COVID-19 vaccine but for the development of future vaccines. It's a great example of the world-leading life sciences sector in this country.

By backing Imperial College London and their alternative vaccine platform, we have enhanced the UK's vaccine portfolio, increasing our chances of identifying a successful vaccine.

Notes to editors

Key points:

- this is the first time the vaccine will be tested in humans
- the vaccine is based on synthetic strands of RNA, rather than a part of the virus
- the final vaccine consists of RNA strands packaged inside tiny fat droplets
- when injected, it instructs muscle cells to produce virus proteins. It does not create copies of the virus and does not cause changes to the cell's own DNA
- the vaccine will be trialled in 300 healthy volunteers aged between 18 to 70
- participants will receive 2 doses of the vaccine (1 dose at 2 visits)
- participants will not be intentionally exposed to live SARS CoV-2 virus at any point of the trial
- Imperial has founded a social enterprise [VacEquity Global Health](#) (VGH) to distribute the vaccine. For the UK and low-income countries abroad, Imperial and VGH will waive royalties and charge only modest cost-plus prices to sustain the enterprise's work, accelerate global distribution and support new research