



Where I work Teresa Lambe

Photographed by John Cairns/
University of Oxford.

Since mid-January, my laboratory at the Jenner Institute at the University of Oxford, UK, has had a clear focus: developing a vaccine against the SARS-CoV-2 coronavirus. The -80°C freezers in the background contain blood and serum samples from volunteers who have received a trial vaccine. The grey machine on my right reads the level of antibodies in those samples, a key measure of the vaccine's effectiveness.

We started our quest as soon as the genetic information for SARS-CoV-2 was published in January, when the virus was still largely confined to China. My brother was there at the time, so, over-protective big sister that I am, I was paying extra attention to what was going on. By mid-February, after working nights and weekends, my team had developed a vaccine that produced an antibody response in a small preclinical trial.

We were well prepared to act quickly. The lab had been working on vaccines for other pathogens, including a type of coronavirus that causes Middle East respiratory syndrome (MERS). We already

had viral vector, a modified cold virus that could safely and reliably deliver pieces of coronavirus to host cells, thereby triggering a response from the immune system. People ask why and how we moved so fast, but this is what we do. We develop and test vaccines.

Our vaccine is now undergoing phase III clinical trials. To ensure that it could be produced at industrial levels and delivered globally, if approved, we partnered with the pharmaceutical firm AstraZeneca.

I'm fascinated with T cells as well as antibodies. T cells don't prevent infections, but they do seek out and destroy infected cells. If we could develop a vaccine that triggers both T cells and antibodies, we'd have a double whammy that could provide strong protection against SARS-CoV-2.

The search for a vaccine took over my life. I've never worked harder. If I had any advice for my former self in January, I'd say take more holidays.

Teresa "Tess" Lambe is a vaccine investigator at the University of Oxford's Jenner Institute, UK. **Interview by Chris Woolston.**