

# 'Pandemic' scientist makes breakthrough on Covid-19 cure

Scientists around the world have been racing to develop treatments, cures and a vaccine for COVID-19, and are getting closer by the day.

Jacob Glanville - one of the stars of Netflix documentary *Pandemic* - runs Distributed Bio, which has been working to find an antibody therapy.

On Monday he tweeted that a development was imminent.

"I'm happy to report that my team has successfully taken five antibodies that back in 2002 were determined to bind and neutralize, block and stop the SARS virus," Dr. Glanville told *Checkpoint*.

"We've evolved them in our laboratory, so now they very vigorously block and stop the SARS-CoV-2 [COVID-19] virus as well.

"This makes them suitable medicines that one could use once they've gone through human testing to treat the virus," Dr. Glanville said.

"The new virus is a cousin of the old SARS. So what we've done is we've created hundreds of millions of versions of those antibodies, we've mutated them a bit, and in that pool of mutated versions, we found versions that cross them over.

"So now we know they bind on the same spot as the new virus, COVID-19.

"It binds the spot that the virus uses to gain entry into your cells. It blocks that.

"At this point, we know it binds the same spot extremely tightly with high affinity. The next step is we send the antibodies to the military, and they will directly put those on the virus and show that it blocks its ability to infect cells."

Dr. Glanville told *Checkpoint* the military deals with the virus itself as he does not want COVID-19 or SARS in his laboratory.

"The other nice thing about it is you want the stamp of approval of a government military to independently test your work. This is one of the foundations of good science.

“Antibodies are attractive because you can give them to a patient right when they’re in the hospital like an antiviral. You can also give them to doctors, you could give them to the elderly people to prevent them from getting sick.”

There are a couple of groups around the world who have been working on developing antibodies, he said.

“Part of the reason we think we’re moving pretty fast is that instead of starting from scratch discovering an antibody, we went to these existing antibodies that were already extremely well-characterized against SARS. And we’ve adapted them. So we’re piggybacking on two years of research.

“It’s sort of like a short-term vaccine, except it works immediately.

“A vaccine could take six to eight weeks to take effect, where this will take effect within 20 minutes. You could give it to a patient who’s sick, experiencing COVID-19, then within 20 minutes of receiving the shot, their body is flooded with those antibodies.

“Those antibodies will surround and stick all over a virus and make it so it’s no longer infectious.”

The disadvantage compared to a vaccine is that a vaccine might give you a year or multiple years of protection, Dr Glanville said. Antibodies will only give protection for eight to 10 weeks.

The military will test the antibodies against COVID-19, and another laboratory will start tests to make sure the medicine is safe for humans.

If those are successful, production of the antibodies have to be scaled up.

“We use very exacting manufacturing standards called GMP for making a medicine, and that can take multiple months,” Dr Glanville said.

“Once that material is ready we go into a human trial. That’s a ... trial where you give it to a series of 400 to 600 people who are in hospitals experiencing symptoms, and then you watch over the next five to 10 days to see whether it helped or not.”

He said he and his colleagues are doing everything they can to speed up the

process, but it does take time.

“We have saved potentially years of research by piggybacking on the SARS antibodies and our technology is very good at engineering these things to cross and we’ve succeeded in doing that.

“The next step, the big-time consuming part, is the GMP manufacturer. Traditionally, that takes nine to 12 months, obviously, we can’t wait that long. So we’ve worked with two different partners to try to accelerate that to take a few months but that does take time and there’s really no way around.”

“Assuming that we’re able to complete our study, at the end of summer... and it looks good, then we would use something called compassionate use.

“This is was used in the Ebola crisis. And it’s been used in other cases where if you have something that’s effective, and there’s no other good medicine, you can begin releasing it to the world for use prior to going through all the approval process.

“That could be as early as September. Unfortunately, that’s also as far away as September.

“So that’s as fast as we can conceive of having this medicine widely available.”

He told *Checkpoint* it is essential for his laboratory that everyone gains access to the medicine.

He said they are talking to the European Commission and there is interest in Asia.

“My feeling is that we should also in anticipation that that study looks good... we should start scaling up a lot more doses, hundreds of thousands to millions for the next step.”

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Source:

<https://www.rnz.co.nz/national/programmes/checkpoint/audio/2018740956/pandemic-scientist-makes-breakthrough-on-covid-19-cure>

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