

BIOQUAL, INC. ANNOUNCES PUBLICATION OF PAN-CORONAVIRUS VACCINE STUDY

Press Release

July 6th, 2022

BIOQUAL is announcing the publication of a collaborative project led by Investigator, Pamela Bjorkman, the David Baltimore Professor of Biology and Bioengineering at California Institute of Technology (Caltech). The study tested a novel vaccine platform against a variety of SARS-like betacoronaviruses, including SARS-CoV-2, in small animals and monkeys. The study, which was published in the journal *Science*, was praised in the *LA Times* by Anthony Fauci, President Biden's Chief Advisor on the COVID-19 pandemic, who described the research as "a major conceptual step toward a pan-coronavirus vaccine."

The vaccine research focused on betacoronaviruses, which includes those that cause COVID-19, severe acute respiratory syndrome and Middle East respiratory syndrome. The Caltech researchers created so-called mosaic nanoparticles covered with pieces of SARS-CoV-2. A "mosaic" version had SARS-CoV-2 plus samples of seven other coronaviruses, including one that causes MERS and other strains found in bats and ant eaters. It was hypothesized that the mosaic version would trigger the immune system to focus on parts common to all eight viruses, and extend protection to most or all betacoronaviruses, even the viruses not included in the vaccine. SARS-CoV, the virus responsible for severe acute respiratory syndrome, was deliberately left out of the mosaic nanoparticle. If the vaccine worked as intended, animals vaccinated with the mosaic nanoparticle, then exposed to SARS-CoV, would be protected. This was indeed the finding. The vaccinated mice and monkeys were largely protected from infection with either SARS-CoV or SARS-CoV-2.

BIOQUAL is excited to have participated in this significant research project. Our contributions included expertise with the SARS-CoV-2 model in the monkeys and extended into challenge with the original SARS-CoV which is considered a Select Agent. BIOQUAL laboratory staff also conducted serology and viral load testing for this project.

<https://www.science.org/doi/10.1126/science.abq0839>

<https://www.latimes.com/science/story/2022-07-05/vaccine-designed-to-block-multiple-coronaviruses-to-begin-human-trials>

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