



Codex DNA Releases New Synthetic SARS-CoV-2 Genome for COVID-19 Vaccine and Therapeutic Research

New version represents dominant variant of the virus responsible for COVID-19 to enable relevant research and development of clinical treatments

SAN DIEGO, California — July 16, 2020

Codex DNA, Inc., today announced the release of a new synthetic SARS-CoV-2 genome developed to accelerate research on the latest and the most dominant strain of the SARS-CoV-2 virus responsible for the COVID-19 pandemic.

The company reports that they built this version of the SARS-CoV-2 genome in less than two weeks using the BioXp™ system, the world's first and only commercially available synthetic biology workstation. This latest effort by Codex DNA adds to a broad suite of solutions for the research and the development of candidate treatments and vaccines to fight the virus.

At the onslaught of the pandemic, Codex DNA quickly released synthetic full-length genomes of the original strain of SARS-CoV-2. It has now used its expertise in DNA synthesis and assembly to construct the genome containing the spike D614G variant.

Scientists tracking the spread of SARS-CoV-2 have determined that the original strain, encoding the D614 spike protein, has been largely overtaken by the G614 variant. This permutation appears to allow the virus to enter cells more effectively and results in higher viral load. This fitness advantage has led to a more transmissible version of the virus, while evidence suggests it has no impact on the disease severity. Scientists believe this G614 variant is now the prevalent form of SARS-CoV-2 around the world. The new Codex DNA synthetic genome will enable scientists to study the prevalent form of the virus to characterize its biology as well as design and test new therapeutics or vaccines.

“Since the earliest days of the COVID-19 outbreak, the Codex DNA team has been deeply focused on delivering resources and finding creative ways to accelerate research into this deadly virus,” said Todd R. Nelson, PhD, CEO of Codex DNA. “Our unique ability to responsibly synthesize entire viral genomes has allowed us to provide mission-critical tools that have already contributed to the pipeline of vaccine candidates, among other achievements. This new genome, and any future SARS-CoV-2 genomes we synthesize to respond to region-specific mutations, will help scientists test candidate treatments against the most relevant strain of the virus.”

The SARS-CoV-2 genome was built completely de novo in a process that would take several months with conventional technology but required less than two weeks on the BioXp™ system. The genome will be available to researchers who pass a rigorous biosecurity inspection process to make sure it's used responsibly.

Codex DNA provides co-funding grants for scientists involved in COVID-19 research and detailed instructions for synthesizing the SARS-CoV-2 genome parts on the BioXp™ system. In addition to the full-length viral genome, Codex DNA offers a variety of SARS-CoV-2 tools, including vaccine scaffolds and constructs, diagnostic RNA controls, antigen panels, antibody libraries, and other synthetic virus parts.

To learn more about the Codex DNA SARS-CoV-2 tools for combating COVID-19, visit <https://codexdna.com/pages/sars-cov-2-tools>.

To order the new SARS-CoV-2 genome, please email covid19@codexdna.com.



About Codex DNA, Inc.

Codex DNA empowers researchers with the tools they need to rapidly and securely design, code, and create synthetic DNA. Creators of the BioXp™ system, the world's only synthetic biology workstation, and the industry-standard Gibson Assembly® method, Codex DNA accelerates advances in the fields of personalized medicine, antibody engineering, vaccine development, biologics drug discovery, and more.

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