COVAXX Vaccine Technology – Fact Sheet

The Solution

COVAXX is using a high precision, multi-antigen peptide platform approach to develop a SARS-CoV-2 vaccine, UB-612: which could be the first multitope peptide-based vaccine for COVID-19. The platform has been used successfully to develop a vaccine for hand, foot and mouth disease and has previously been shown to be safe and well-tolerated in four human clinical trials. Based on the platform's history and our preclinical trials, we anticipate that the safety profile of the UB-612 vaccine will be mirrored in upcoming clinical trials

The COVAXX proprietary vaccine platform is comprised of a suite of technologies:

- The molecular design of functional antigens to mimic functional viral epitopes with synthetic peptide/protein B and T immunogens
- Increased spectrum of antigens by building an antigen library of synthetic peptides with similar sequences
- Adjuvant and formulation technologies that enhance the immune responses
- Synthetic peptide technologies that can produce long peptide antigens (50-70 amino acids) with high quality
- UBITh® peptides that may enhance immunogenicity by connecting the functional antigens with patent-protected and proprietary UBITh® T-Helper (Th2) enhancement peptide

Mechanism

UB-612 is composed of synthetic peptides designed to mimic biology, allowing COVAXX the ability to adapt the production peptide sequence quickly to new virus strains. In pre-clinical trials, UB-612 has shown high immunogenicity, a robust antibody response and, through *in vitro* testing- the antibodies have bound the target COVID-19 spike protein antigen, blocked binding to the hACE2 receptor, and neutralized the virus's ability to replicate.

Furthermore, rather than focusing only on neutralizing antibodies, COVAXX's vaccine is designed to activate both humoral and cellular immunity for greater efficacy, while avoiding vaccine-induced disease enhancement. As it is composed with synthetic peptides, rather than live virus, the UBITh Vaxxine Platform has no biohazard risk and is stable, allowing for a highly scalable manufacturing process.

Development Status

From March through May 2020, COVAXX tested more than 30 coronavirus vaccine candidate constructs in animals and is now taking the top candidate into the clinic, with a Phase 1 study beginning in Taiwan this fall. COVAXX has also established a U.S.-based partnership with the National Quarantine Center at the University of Nebraska Medical Center, to conduct Phase 1/2 clinical trials in the U.S., and in September, 2020, announced with Dasa, the largest medical diagnostics company in Brazil, a partnership to conduct Phase 2/3 trials in Brazil, both pending regulatory approvals.

The UBITh Vaxxine Platform allows for the relatively simple and inexpensive productions of vaccines at scale, currently yielding 500 million doses annually and more than five billion in its ten-year history. If approved, COVAXX plans to manufacture 100 million doses of UB-612 during early 2021 in Taiwan, and a billion doses by the end of 2021. COVAXX is building a 200,000ft^2 facility in the U.S. to support production of more than 250 million doses per year. COVAXX has exclusive license to UBI's coronavirus-specific patents globally.

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The Company

COVAXX is a U.S.-based spinout of the UBI group of companies founded in 1985 and based in New York. UBI and its healthcare subsidiaries have remained recognized leaders in antibody diagnostics and vaccine development and manufacturing for chronic and infectious diseases for more than 30 years. With seven operating entities and 950+ employees, UBI has invested more than $250 million into its proprietary synthetic peptide technology platform and diverse product portfolio. COVAXX has developed an antibody blood screening test for COVID-19 and is focused on rapidly developing potentially the first multitope peptide-based vaccine for COVID-19. Additionally, the company has deployed to date more than 200,000 COVID-19 antibody tests worldwide. These tests have demonstrated greater than 99% specificity and 100% sensitivity (post-seroconversion), with continued improvement in the second generation of testing.

Executive Team

- Peter H. Diamandis, M.D., Co-Founder and Vice Chairman
- Mei Mei Hu, Co-Founder and Co-CEO
- Louis Reese, Co-Founder and Co-CEO
- Jon Harrison, Chief Strategy Officer

Scientific Committee

- Chang Yi Wang, Ph.D., Executive Founder and Chairperson, Scientific Committee
- Farshad Guirakhoo, Ph.D., Chief Scientific Officer (CSO).
- George Siber, M.D., an internationally recognized vaccine expert with decades of experience in developing innovative vaccines. Dr. Siber was formerly Executive Vice President and Chief Scientific Officer of Wyeth Vaccines Research.
- Wayne C. Koff, Ph.D., President and CEO of the Human Vaccines Project.
- Thomas P. Monath, M.D., managing partner and Chief Scientific Officer of Crozet BioPharma LLC.