



Update on Antigen Design for Universal Sarbecovirus Vaccine by Shionogi and KOTAI

OSAKA, Japan, June 19, 2023 - Shionogi & Co., Ltd. (Head Office: Osaka, Japan; Chief Executive Officer: Isao Teshirogi, Ph.D.; hereafter "Shionogi") and KOTAI Biotechnologies, Inc. (Head Office: Osaka, Japan; Chief Executive Officer: Kazuo Yamashita, Ph.D.; hereafter "KOTAI") announced meeting the criteria set in advance for the companies' joint research effort to create a Universal Sarbecovirus¹ Vaccine that can induce neutralizing antibodies against a wide range of sarbecovirus strains and variants.

The Universal Sarbecovirus Vaccine antigen is designed to selectively induce neutralizing antibodies against regions where viral mutations are unlikely to occur and which are conserved across coronaviruses. This vaccine is expected to help to prepare for future potential COVID-19(SARS-CoV-2) mutant variants and potential new coronavirus pandemics, avoiding the need to continually develop new vaccines against continually evolving and emerging coronavirus mutant variants.

Under the terms of the collaboration agreement, KOTAI will receive a milestone from Shionogi for the identification of an antigen meeting the predefined success criteria for the ability to induce neutralizing antibodies across a breadth of coronavirus virus variants and strains. This collaboration has been funded and included² in the vaccine / new modality research and development project, as part of a public solicitation by SCARDA^a established within AMED^b.

Shionogi and KOTAI will continue to progress the research and development of a Universal Sarbecovirus Vaccine, with the support of SCARDA, to seek to bring this important advancement to patients around the world rapidly, through the synergistic combination of Shionogi's expertise in infectious diseases with KOTAI's capabilities in the analysis of immunity and protein structure using information technology.

- 1. SARS-CoV-2 and SARS coronavirus belong to the subgenus Sarbecovirus.
- 2. June 30, 2022 Press Release
- a. SCARDA : Strategic Center of Biomedical Advanced Vaccine Research and Development for Preparedness and Response
- b. AMED : Japan Agency for Medical Research and Development

[About SCARDA]

SCARDA is an organization established within the Japan Agency for Medical Research and Development (AMED) in March 2022. Based on the "Vaccine Development / Production System Strengthening Strategy" decided by the Cabinet in June 2021, it was organized for the purpose of strengthening the R&D / production system during normal times so it will be ready in times of pandemic emergency. AMED boosts the funding capacity for strategically significant research, initiative for world-leading vaccine research and development centers and promotes the strengthening of the pharmaceutical startup ecosystem. Please see <u>SCARDA</u> website for details.

[About KOTAI]

KOTAI is a biotechnology company established in 2016 based on research results from Osaka University. As a group of experts in the information analysis of immunity and protein structure, KOTAI conducts research and development in collaboration with many research institutes, universities and pharmaceutical companies. Please see <u>the KOTAI website</u> for details.

[About Shionogi]

Shionogi is committed to the principle "Protecting people worldwide from the threat of infectious diseases" as our key focus, and is working on the realization of total care for infectious diseases. While contributing to the safety and security of society, we will be prepared for the swift provision of therapeutic drugs and vaccines as necessary depending on the situation, such as the emergence of new variants or the future prevalence of the disease. Please see <u>SHIONOGI website</u> for details.

Forward-Looking Statements

This announcement contains forward-looking statements. These statements are based on expectations in light of the information currently available, assumptions that are subject to risks and uncertainties which could cause actual results to differ materially from these statements. Risks and uncertainties include general domestic and international economic conditions such as general industry and market conditions, and changes of interest rate and currency exchange rate. These risks and uncertainties particularly apply with respect to product-related forward-looking statements. Product risks and uncertainties include, but are not limited to, completion and discontinuation of clinical trials; obtaining regulatory approvals; claims and concerns about product safety and efficacy; technological advances; adverse outcome of important litigation; domestic and foreign healthcare reforms and changes of laws and regulations. Also for existing products, there are manufacturing and marketing risks, which include, but are not limited to, inability to build production capacity to meet demand, lack of availability of raw materials and entry of competitive products. The company disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise.

For Further Information, Contact:

SHIONOGI Website Inquiry Form : https://www.shionogi.com/global/en/contact.html