PRESSRELEASE

SHIONOGI

Shionogi Files for Approval of S-268019, a COVID-19 Recombinant Protein-based Vaccine, in Japan

OSAKA, Japan, November 24, 2022 - Shionogi & Co., Ltd. (Head Office: Osaka, Japan; Chief Executive Officer: Isao Teshirogi, Ph.D.; hereafter "Shionogi") announced that it has filed for manufacturing and sales approval of S-268019, a recombinant protein-based preventive vaccine, for use in priming and booster (3rd) doses, against COVID-19, caused by the novel coronavirus (SARS-CoV-2) infection.

S-268019 is produced using a unique and reliable recombinant protein vaccine technology, "BEVS", established by UMN Pharma Inc., a subsidiary of Shionogi. The recombinant protein vaccine contains the purified target antigen protein, produced using genetic information from the virus, and produced by the BEVS technology, which is used in already approved and marketed vaccines, such as an influenza prophylactic vaccine.

The filing is based on the positive results of five clinical trials conducted in Japan.[1-5] In the main clinical trial, which tested priming dose administration, the Phase 3 neutralizing antibody titer comparison trial met the criteria for primary endpoint. The primary endpoint in this study was a superiority comparison of the geometric mean antibody titer (GMT) of SARS-CoV-2 neutralizing antibody titer at 28 days following the 2nd vaccination of S-268019 compared to the group receiving ChAdOx1 nCoV-19. Regarding the booster dose (3rd dose) administration clinical study, the primary endpoint was also achieved, with non-inferiority of the S-268019 group to the COMIRNATY (original strain) group confirmed in a comparison of the GMT of the neutralizing antibody titer, as well as the seroresponse rate of the SARS-CoV-2 neutralizing antibody titer, measured on the 29th day (28 days after inoculation) between groups in which S-268019 or COMIRNATY was administered as the 3rd vaccine dose in adults, 6 months or more after receiving two inoculations of COMIRNATY. Regarding safety, there were no major clinical concerns in any of the five trials. Starting in February 2022, we initiated prior consultation with the Pharmaceuticals and Medical Devices Agency (PMDA) in preparation for the approval application in Japan and Shionogi has already been submitting non-clinical and clinical data for review, and will continue to do so as further information is obtained.

Shionogi is committed to "Protect people worldwide from the threat of infectious diseases" as our key focus. We are working towards total care for infectious diseases, through building awareness, epidemiological surveillance, prevention, diagnosis, and addressing exacerbations, as well as treating the infection itself. As SARS-CoV-2 continues to have a major impact on people's lives and to represent a global threat, we will seek to contribute to re-establishing the safety and security of society by developing, delivering, and producing, in Japan, a vaccine for COVID-19.

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

【About BEVS established by UMN pharma】

BEVS (Baculovirus Expression Vector System) is the protein expression technology using insect cell etc. established by UMN pharma using rhabdovirus-free insect cell cultivation technology.

【About the Japanese Phase 1/2 clinical trial】

The Phase 1/2 clinical trial is a double-blind and placebo-controlled study to evaluate safety, tolerability and immunogenicity of two doses of the vaccine. 60 adults are enrolled in the trial. For more information about this clinical trial, please refer to jRCT No.:2031210269. Subject registration for this trial has been completed. In the evaluation up to 28 days after two doses of the vaccine, tolerability and safety were confirmed, as was a neutralizing antibody titer equal to or higher than that of convalescent serum.

【About the Japanese Phase 2/3 clinical trial】

The Phase 2/3 clinical trial is an open-label study to evaluate safety, tolerability and immunogenicity of S-268019 in 3,100 adults and elderly people. For more information about this clinical trial, please refer to jRCT No.:2031210383. Subject registration for this trial has been completed. In the evaluation up to 28 days after the second inoculation, tolerability and safety, and the increase in neutralizing antibody titer, were all confirmed.

【About the Japanese Phase 2/3 additional dose clinical trial】

This clinical trial is a randomized, active controlled, double-blind trial. In this trial, the efficacy and safety of an additional dose of COMIRNATY or S-268019 in 200 adults, 6 months or more after receiving a primary series of COMIRNATY, will be compared. For more information about this clinical trial, please refer to jRCT No.:2031210470. Subject registration for this trial has been completed and the primary endpoint (neutralizing antibody titer against SARS-CoV-2 28 days after the additional dose) was achieved.

【About the Japanese Phase 3 additional dose clinical trial】

This clinical trial is an open-label trial. This trial is to assess the safety and immunogenicity of an additional dose of S-268019 in 150 adults aged 20 to 64 years who received 2 inoculations of Spikevax intramuscular injection (hereafter "Spikevax"), and elderly people aged 65 years or older who received 2 inoculations of a primary series

of COMIRNATY or Spikevax (in each case, between 6 months and 8 months after the second vaccination). For more information about this clinical trial, please refer to jRCT No.:2031210613. Subject registration for this trial has been completed.

【About the Phase 3 active control neutralizing antibody comparative clinical trial】

This clinical trial is a double-blind randomized active controlled trial to evaluate the neutralizing antibody titer after the primary series of Vaxzevria or S-268019 in 1,000 adults and elderly. For more information about this clinical trial, please refer to jRCT No.:2051210151. S-268019 met the primary endpoint.

The Phase 1/2 Clinical Trial was supported by the Japan Agency for Medical Research and Development (AMED).

Our efforts against COVID-19 are updated on our website, as needed. A considerable amount of valuable information on COVID-19 from other websites is also summarized on this page, so please use it for reference: SHIONOGI website