



Spero Therapeutics Initiates Clinical Program For Oral Carbapenem SPR994

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– *Clinical study to evaluate potential first ever orally administered carbapenem being developed for multi-drug resistant (MDR) Gram-negative infections*

– *Initiation of pivotal Phase 3 clinical trial in patients with complicated urinary tract infections (cUTI) planned for second half of 2018*

CAMBRIDGE, Mass., October 20, 2017 – Spero Therapeutics, Inc., a multi-asset clinical-stage biopharmaceutical company focused on identifying, developing and commercializing novel treatments for MDR bacterial infections, today announced the initiation of a Phase 1 safety, tolerability, and pharmacokinetics study of SPR994, an orally administered carbapenem antibiotic, in healthy subjects.

“The advancement of SPR994 into the clinic is a significant milestone towards addressing the urgent unmet need for new oral therapies to treat drug-resistant Gram-negative infections,” said Ankit Mahadevia, M.D., Chief Executive Officer of Spero Therapeutics. “SPR994 would be the first oral carbapenem approved for adults suffering from these resistant Gram-negative bacteria. This potential new oral therapy could ultimately provide physicians with an important new treatment option for those patients who otherwise may require IV therapy.”

Spero plans for a rapid development approach with SPR994 that supports initiation of a single pivotal Phase 3 trial in the second half of 2018 contingent upon a successful Phase 1 study outcome and subject to FDA feedback. As announced recently, the U.S. Food and Drug Administration (FDA) has designated SPR994 as a Qualified Infectious Disease Product (QIDP) for cUTIs, community-acquired bacterial pneumonia and diabetic foot infections. QIDP designation provides incentives for new antibiotic treatments, including priority review for regulatory approval by the FDA and eligibility for additional market exclusivity.

Carbapenems have been utilized for over 30 years and are considered the standard of care for many serious MDR Gram-negative bacterial infections, but to date have only been available as IV-administered formulations. Currently, there are no commercially available oral carbapenems for use in adults. “For patients with urinary tract infections, *E. coli* resistance to standard therapies, such as fluoroquinolones, is growing in the hospital and community setting. It has been more than two decades since a new oral agent was approved for complicated urinary tract infections in the U.S., leaving physicians few options for these resistant infections other than administration of IV products in the hospital or outpatient setting,” said Greg Moran, M.D., Chief of the Department of Emergency Medicine and Faculty in the Division of Infectious Diseases at Olive View-UCLA Medical Center. Spero’s SPR994 program has the potential to address this significant gap with its potent *in vitro* microbiologic activity against extended spectrum beta lactamases (ESBL)-

producing *Enterobacteriaceae* and promising oral bioavailability.

About the Clinical Trial

This Phase 1 clinical trial is a double-blind, placebo-controlled, ascending dose, multi-cohort study to assess the safety, tolerability, food effect and pharmacokinetics of SPR994 in healthy subjects.

About SPR994

SPR994 is a novel antibiotic with potential to be the first broad-spectrum oral carbapenem approved for use in adults. SPR994 is a novel, proprietary form and oral formulation of tebipenem pivoxil (tebipenem), a carbapenem-class antibiotic marketed by Meiji Seika Pharma Co. Ltd. in Japan as Orapenem® since 2009 for pediatric infections including pneumonia, otitis media and sinusitis and studied in approximately 1,200 subjects. SPR994 has demonstrated potent antibiotic activity against Gram-negative bacteria, including E. coli producing ESBLs and ESBL-producing *Klebsiella pneumoniae*, similar to IV-administered ertapenem. While SPR994 has demonstrated a broad spectrum of activity against MDR Gram-negative bacteria, the initial trial will focus on the treatment of cUTI. SPR994, enabled by Spero's proprietary approach, has tailored release characteristics to potentially increase the efficacy of tebipenem for a given dose and reduce the frequency of dose administration.

About Spero

Spero Therapeutics is a multi-asset, clinical-stage biopharmaceutical company focused on identifying, developing and commercializing novel treatments for MDR bacterial infections.

Spero is advancing SPR994, which is designed to be the first broad-spectrum oral antibiotic for use in adults to treat MDR Gram-negative infections.

Spero is also advancing its Potentiator Platform, which it believes will enable it to develop drugs that will expand the spectrum and potency of existing antibiotics, including formerly inactive antibiotics, against Gram-negative bacteria. SPR741, Spero's lead potentiator product candidate, is a clinical-stage, IV-administered agent that has been observed in in vitro studies to potentiate over two dozen existing antibiotics by expanding their activity against Gram-negative pathogens. SPR206, Spero's preclinical potentiator product candidate, is also designed to have antibiotic activity as a single agent against certain MDR and extremely drug resistant (XDR) bacterial strains.

Spero is also developing SPR720, its novel oral therapy product candidate designed for the treatment of pulmonary non-tuberculous mycobacterial (NTM) infections.

For more information, please visit <https://sperotherapeutics.com>

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