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Venatorx Pharmaceuticals Awarded a Third Antibiotic BARDA Contract

Total award of up to $167 million for development of novel oral antibiotic ceftibuten-ledaborbactam etzadroxil for treatment of complicated urinary tract infection (cUTI), including pyelonephritis

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MALVERN, Pa.--(BUSINESS WIRE)--Venatorx Pharmaceuticals, a private, pre-commercial pharmaceutical company focused on improving health outcomes for patients with multidrug-resistant bacterial infections and hard-to-treat viral infections, today announced the Biomedical Advanced Research and Development Authority (BARDA), part of the Administration for Strategic Preparedness and Response (ASPR) within the U.S. Department of Health and Human Services (HHS), has awarded the company a contract to support the development of oral ceftibuten-ledaborbactam etzadroxil for the treatment of complicated urinary tract infection (cUTI), including pyelonephritis.

Venatorx has recently completed multiple Phase 1 clinical studies with ceftibuten-ledaborbactam etzadroxil and will advance directly to global Phase 3 clinical trial testing under this contract. The contract will provide funding and technical support for the development activities required for submission of a New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA) for marketing authorization of ceftibuten-ledaborbactam etzadroxil for the treatment of cUTI, including pyelonephritis. The contract will also cover a pediatric program as a post-marketing commitment.

“We thank BARDA, ASPR, and HHS for their dedication to scientific innovation and commitment to this private-public partnership. This contract supports Venatorx’s mission to address the devastating impact on patient lives from the growing number of bacterial infections in the U.S. and the urgent need for oral antibiotics to combat drug-resistant gram-negative pathogens,” said Christopher J. Burns, Ph.D., President and CEO of Venatorx. “Currently, there are no approved oral antibiotics that are effective in the treatment of drug-resistant gram-negative bacterial infections to help address increasing drug-resistant bacterial infections globally. We believe that oral ceftibuten-ledaborbactam etzadroxil could play an important role in treating drug-resistant gram-negative infections, preventing unnecessary hospitalizations, and saving lives.”

Terms of the Award

BARDA will provide a firm initial commitment of up to $20.3 million with options to provide up to a total of $167 million over six years. BARDA and Venatorx will share the costs of all studies needed to bring the drug to market, including a planned pivotal global Phase 3 clinical trial to treat cUTI. Venatorx will lead all regulatory activities necessary to seek FDA approval of ceftibuten-ledaborbactam etzadroxil under the contract.

This project has been funded in whole or in part with federal funds from the Department of Health and Human Services; Administration for Strategic Preparedness and Response; Biomedical Advanced Research and Development Authority, under contract number 75A50123C00050.

About Complicated Urinary Tract Infections (cUTI) and Antimicrobial Resistance (AMR)

Complicated UTIs, which include pyelonephritis, are defined as urinary tract infections ascending from the bladder accompanied by local and systemic signs and symptoms and are one of the most common bacterial infections in hospital and community settings. Bacteremia can arise secondary to infections like cUTI and can result in substantial morbidity and mortality.[1] Annually in the U.S., it is estimated that more than 2.8 million cUTI patients will be diagnosed and require antibiotic therapy leading to over $6 billion in annualized 30-day costs.[2] Between 1998 and 2011, incidence of US UTI hospitalizations increased 52%, while severity of UTI admissions decreased, indicating that patients previously treated with oral agents as outpatients in the community may now be admitted to the hospital due to increasing antimicrobial resistance to oral agents.[3] In a study of US patients hospitalized with an infection between 2012 and 2017, 83% of infections in the hospital cohort originated in the community with 32% of those infections caused by bacterial pathogens carrying extended spectrum beta-lactamases (ESBLs). During that time, the incidence of ESBL-associated infections increased by ~53%, a change that investigators believed was driven by an increase in community-onset cases.[4]

Treatment of cUTIs in the community has been compromised by increasing drug resistance to commonly used oral antibiotics such as fluoroquinolones, cephalosporins and trimethoprim-sulfamethoxazole.[5] In a study tracking resistance of *E. coli* isolates from US UTI patients in 2017, high co-resistance among oral antibiotics was observed suggesting diminishing utility of currently available oral antibiotics due to increasing antimicrobial resistance.[6] Currently, there are no approved oral beta-lactam or beta-lactam/beta-lactamase inhibitor combinations that are effective against Enterobacterales expressing Ambler class A ESBLs, class C cephalosporinases, and class A& D serine carbapenemases (KPC and OXA-48).

About Ceftibuten-Ledaborbactam etzadroxil

Ceftibuten, an oral third-generation, highly bioavailable cephalosporin antibiotic, is approved in the US for the treatment of upper and lower respiratory tract infections and for urinary tract infections outside the US. Ledaborbactam etzadroxil is a novel broad-spectrum boronic acid beta-lactamase inhibitor (BLI). *In vitro* and *in vivo* studies demonstrated that ledaborbactam restores the activity of ceftibuten against strains of Enterobacterales expressing Ambler class A ESBLs, class C cephalosporinases, and class A & D serine carbapenemases (KPC and OXA-48, respectively) as well as multidrug-resistant (MDR) Enterobacterales. Ceftibuten-ledaborbactam etzadroxil may offer a new treatment option for outpatient therapy to treat serious bacterial infections caused by MDR Enterobacterales that are resistant to current standard-of-care oral and intravenous antibiotics, including fluoroquinolones, trimethoprim-sulfamethoxazole, cephalosporins and carbapenems.

Ceftibuten-ledaborbactam etzadroxil has been granted Qualified Infectious Disease Product (QIDP) and Fast Track designations by the U.S. Food and Drug Administration (FDA) for cUTI and uncomplicated urinary tract infections. Venatorx has recently completed multiple Phase 1 clinical studies with ceftibuten-ledaborbactam etzadroxil and will advance directly to global Phase 3 clinical trial testing under this new BARDA contract.

Funding Partners and Collaborators for Ceftibuten-Ledaborbactam etzadroxil

This project has also been funded in whole or in part with Federal funds from the National Institute of Allergy and Infectious Diseases, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN272201600029C.

About Venatorx Pharmaceuticals, Inc.

Venatorx is a private, pre-commercial pharmaceutical company focused on improving health outcomes for patients with difficult-to-treat drug resistant gram-negative bacterial infections and viral infections. Venatorx's lead asset, cefepime-taniborbactam, is an investigational antibiotic that completed a Phase 3 study (NCT03840148) in adults with complicated urinary tract infections (cUTI), including pyelonephritis and an NDA is under FDA review with a PDUFA action date of February 22, 2024. In October 2022, BARDA awarded a contract of up to $318 million to Venatorx for development and procurement of cefepime-taniborbactam for the treatment of melioidosis. As part of its broader pipeline, Venatorx is also

developing an oral antibacterial, ceftibuten-ledaborbactam etzadroxil, that will advance directly to a global Phase 3 cUTI clinical trial under its BARDA contract. For more information about Venatorx and its anti-infectives portfolio, please visit www.venatorx.com.

Forward Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation statements regarding the potential, safety, efficacy, and regulatory and clinical development of Venatorx Pharmaceuticals' product candidates.

References

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