TETRAPHASE PHARMACEUTICALS

FACT SHEET | Q3 2018

COMPANY SUMMARY

Tetraphase Pharmaceuticals, Inc. (NASDAQ: TTPH) is a biopharmaceutical company focused on developing and commercializing novel antibiotics to treat serious and life-threatening Gram-negative multidrug-resistant (MDR) bacterial infections that pose a major and growing health threat to society. Our proprietary chemistry technology represents significant innovation in the creation of diverse compounds and has the potential to reinvigorate the tetracycline class by enabling the fully synthetic synthesis of novel candidates. Using this technology, we have synthesized more than 3,000 compounds with potent *in vitro* activity against Gram-negative, Gram-positive and anaerobic bacteria that are resistant to both existing tetracyclines and other classes of antibiotic products.

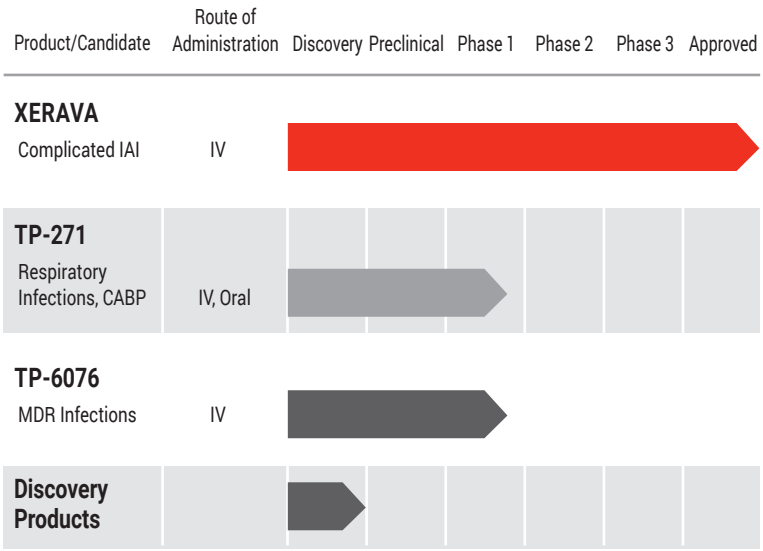
Tetraphase's lead product is Xerava™ (eravacycline), which is approved by the U.S. Food and Drug Administration (FDA) for the treatment of complicated intra-abdominal infections and is under review by the European Medicines Agency (EMA) for the same indication. The Company's pipeline includes two product candidates in development: TP-271, a novel, broad-spectrum antibiotic for the treatment of respiratory infections, including those caused by bacterial biothreats and antibiotic-resistant public health pathogens; and TP-6076, the lead candidate from our second-generation discovery program targeting life-threatening infections, including those caused by carbapenem-resistant *Acinetobacter baumannii*. Both candidates are currently being tested in phase 1 multiple-ascending dose studies.

BUSINESS STRATEGY

Our goal is to become a fully integrated biopharmaceutical company that discovers, develops, and commercializes novel tetracyclines for use in areas of unmet medical need. Specifically, we intend to:

- Directly commercialize Xerava with a targeted hospital sales force in the U.S. and EU5
- Collaborate with China biopharmaceutical company Everest Medicines Limited to develop and commercialize eravacycline in China, Taiwan, Hong Kong, Macau, South Korea and Singapore
- Establish partnerships for the development and commercialization of eravacycline in other territories outside of the U.S.
- Opportunistically advance development of other product candidates

TETRAPHASE PIPELINE



ANTIBIOTIC CRISIS EMERGING

Antibiotic resistance is one of the biggest threats to global health today. According to the United Nations report "World Populations Prospect," based on scenarios of rising drug resistance for six pathogens, unless action is taken, by 2050 deaths from antimicrobial drug resistance could reach 10 million lives each year, at a cumulative cost to global economic output of $100 trillion. On this basis, the death toll could be a staggering one person every three seconds. Further, in 2017, the World Health Organization (WHO) published a report on antibacterial agents in development which noted a serious lack of treatment options for multidrug- and extensively drug-resistant M. tuberculosis and Gram-negative pathogens, including *Acinetobacter* and *Enterobacteriaceae* (such as *Klebsiella* and *E. coli*) which can cause severe and often deadly infections that pose a particular threat in hospitals and nursing homes. Dr. Tedros Adhanom Ghebreyesus, Director-General of WHO, commented on the report, "Antimicrobial resistance is a global health emergency that will seriously jeopardize progress in modern medicine. There is an urgent need for more investment in research and development for antibiotic-resistant infections… otherwise we will be forced back to a time when people feared common infections and risked their lives from minor surgery."

AT A GLANCE

Tetraphase is developing novel antibiotics for serious and life-threatening Gram-negative MDR infections

- Pipeline of differentiated antibiotics created by proprietary chemistry platform
- Active against a wide variety of MDR bacteria: Gram-negative, Gram-positive and anaerobes

Lead product Xerava

- Best-in-class activity in MDR Gram-negative infections
- Key attributes observed in preclinical and clinical studies to date have differentiated eravacycline from other antibiotics that target MDR infections and address the limitations of currently available treatments
- Two phase 3 studies completed to support regulatory approvals in cIAI
- The phase 3 studies demonstrated statistical non-inferiority of Xerava to ertapenem in IGNITE1 and to meropenem in IGNITE4
- Well-suited for use as empiric therapy in the majority of patients in the hospital with cIAI

Pipeline candidates TP-271 and TP 6076 in phase 1 development

TP-271

- A novel, fully synthetic tetracycline antibiotic
- Targets respiratory disease caused by bacterial biothreats and antibiotic-resistant public health pathogens
- Potent in vitro activity against Gram-negative and Gram-positive pathogens associated with respiratory tract infections
- Positive safety and pharmacokinetic data from IV single-ascending and multiple-ascending dose studies
- Granted Qualified Infectious Disease Product and Fast Track designations by the FDA for both IV and oral formulations

TP-6076

- A novel, fully synthetic tetracycline antibiotic
- Potent in vitro activity against multidrug-resistant Gram-negative pathogens
- Positive safety and pharmacokinetic data in single-ascending dose study
- Phase 1 multiple-ascending dose study complete
- Selected to receive $4 million funding from Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) to support development

Ended Q2 2018 with $111.2 in cash and cash equivalents

XERAVA™ – ADDRESSING THE ANTIBIOTIC CRISIS

Xerava is a novel, fully-synthetic fluorocycline antibiotic being developed for the treatment of cIAI and other serious infections, including those caused by MDR pathogens that have been highlighted as urgent public health threats by both WHO and the U.S. Centers for Disease Control & Prevention (CDC). Xerava demonstrated potent activity against MDR pathogens.

Xerava was investigated for the treatment of cIAI as part of the Company's Investigating Gram-Negative Infections Treated with Eravacycline (IGNITE) phase 3 programs. In the Company's first pivotal phase 3 trial in patients with cIAI, twice-daily IV Xerava met the primary endpoint by demonstrating statistical non-inferiority of clinical response compared to ertapenem, was well-tolerated, and achieved high cure rates in patients with Gram-negative pathogens, including resistant isolates. In a second phase 3 clinical trial in patients with cIAI, twice-daily IV Xerava met the primary endpoint by demonstrating statistical non-inferiority of clinical response compared to meropenem, was well-tolerated, and achieved high cure rates. Xerava was approved by the FDA in August 2018 and is pending approval by the European Commission.

MANAGEMENT

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Jacques Dumas, Ph.D.
Chief Scientific Officer

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