July 25, 2017

Tetraphase Announces Positive Top-Line Results from Phase 3 IGNITE4 Clinical Trial in Complicated Intra-Abdominal Infections

IV Eravacycline Achieves Primary Endpoint in Second of Two Pivotal Trials in cIAI

Company Proceeding with Regulatory Submissions in Europe in 3Q 2017 and U.S. in 1Q 2018 –

– Ongoing Phase 3 IGNITE3 Clinical Trial in cUTI Expected to Complete Enrollment Early 4Q 2017 –

Conference Call Scheduled for Today at 5:00 p.m. ET

WATERTOWN, Mass., July 25, 2017 (GLOBE NEWSWIRE) -- Tetraphase Pharmaceuticals, Inc. (NASDAQ:TTPH), a clinical stage biopharmaceutical company developing novel antibiotics to treat life-threatening multidrug-resistant (MDR) infections, today announced positive top-line results from IGNITE4, the Company's phase 3 clinical trial evaluating the efficacy and safety of twice-daily intravenous (IV) eravacycline compared to meropenem for the treatment of patients with complicated intra-abdominal infections (cIAI). The results of IGNITE4, which enrolled 500 patients, demonstrated statistical non-inferiority of eravacycline to meropenem for the primary efficacy endpoint of clinical response at the test-of-cure (TOC) visit.

"Complicated intra-abdominal infections are increasingly caused by resistant pathogens and appropriate antibiotic therapy is critical to successful outcomes," commented Joseph Solomkin, M.D., Professor Emeritus in the Department of Surgery at the University of Cincinnati College of Medicine and advisor to the Company. "Collectively, the data from the IGNITE program in cIAI versus two widely-used comparators, ertapenem and meropenem, provides compelling evidence for IV eravacycline monotherapy and its potential to be a valuable new addition to the limited toolkit currently available to treat serious, and often life-threatening MDR infections."

Top-line Results from Phase 3 IGNITE4 Clinical Trial in Patients with cIAI: Summary of FDA and EMA Primary Efficacy Endpoints
A summary of the IGNITE4 efficacy data is outlined in the following table and described below:

	Eravacycline n/N (%)	Meropenem n/N (%)	95% Confidence Interval (CI)
Microbiological intent-to-treat (micro-ITT) population; 12.5% non-inferiority margin (FDA)	177/195 (90.8%)	187/205 (91.2%)	-6.3, 5.3
Modified intent-to-treat (MITT); 12.5% non-inferiority margin (EMA)	231/250 (92.4%)	228/249 (91.6%)	-4.1, 5.8
Clinically evaluable (CE); 12.5% non-inferiority margin (EMA)	218/225 (96.9%)	222/231 (96.1%)	2.9, 4.5

Eravacycline achieved high clinical cure rates in patients with complicated intra-abdominal infections, comparable to patients in the meropenem group. The primary efficacy analysis under the U.S. Food and Drug Administration (FDA) guidance was conducted using a 12.5% non-inferiority margin in the micro-ITT population. Clinical cure rates in the micro-ITT population were 90.8% and 91.2% for eravacycline (n=195) and meropenem (n=205), respectively (95% CI: -6.3%,5.3%). Under the EMA guidance, the primary analysis was conducted using a 12.5% non-inferiority margin of the modified intent-to-treat (MITT) and clinically evaluable (CE) patient populations. Clinical cure rates in the MITT population were 92.4% and 91.6% for eravacycline (n=250) and meropenem (n=249), respectively (95% CI: -4.1%,5.8%). Clinical cure rates in the CE population were 96.9% and 96.1% for eravacycline (n=225) and meropenem (n=231), respectively (95% CI: -2.9%,4.5%). Eravacycline met the primary efficacy endpoints according to the FDA and EMA guidelines. The secondary analyses were consistent with, and supportive of, the primary outcome.

There were no treatment-related serious adverse events (SAEs) in the trial. Treatment-emergent adverse event (TEAEs) rates were similar in both treatment groups. The most commonly reported drug-related adverse events (AEs) for eravacycline were infusion site reactions, nausea and vomiting, each occurring at a rate of less than 5%. The AE profile for IV eravacycline in IGNITE4 was consistent with that seen in the previously completed phase 3 IGNITE1 and phase 2 clinical trials in cIAI.

The spectrum of pathogens in this trial was similar to that seen in previously completed clinical trials in this patient

population. The most common Gram-negative pathogens in the study included *Escherichia coli, Klebsiella pneumonia, Pseudomonas* and *Bacteroides*.

Tetraphase plans to submit a New Drug Application (NDA), which will be supported by data from the IGNITE1 and IGNITE4 clinical trials, to the FDA in the first quarter of 2018. The Company also remains on track to submit a Marketing Authorization Application (MAA) to the European Medicines Agency (EMA) during the third quarter of 2017. In addition, Tetraphase plans to submit detailed results from the phase 3 IGNITE4 clinical trial for presentation at a future scientific meeting.

"The successful outcome of this second of two pivotal phase 3 trials investigating twice-daily IV eravacycline for the treatment of cIAI is a critical achievement for Tetraphase as we continue preparations to submit our first NDA to the FDA for IV eravacycline, which we expect in the first quarter of 2018," said Guy Macdonald, President and CEO of Tetraphase. "I would like to express my sincere gratitude to all of the patients and physicians that participated in the IGNITE4 and IGNITE1 studies. We believe that eravacycline has the potential to play a key role in the treatment of serious hospital infections, and we are another step closer to realizing that goal."

Mr. Macdonald continued, "In the coming months, along with execution of the U.S. and European regulatory submissions for eravacycline in cIAI, we will also continue to focus on completing the ongoing phase 3 IGNITE3 study for once-daily IV eravacycline in complicated urinary tract infections (cUTI). We are pleased to share that IGNITE3 is enrolling more rapidly than expected and we now expect to complete enrollment early in the fourth quarter of 2017."

In parallel with the clinical trials investigating IV eravacycline, Tetraphase is also developing an oral formulation of eravacycline. The Company has completed certain phase 1 clinical studies designed to identify optimal dosing regimen and exposure. Further phase 1 clinical testing is currently ongoing and the company expects to provide an update with top-line findings and potential next steps during the third quarter of 2017.

Conference Call Information
Tetraphase will host a conference call today at 5:00 pm Eastern Time to discuss the top-line data from the phase 3 IGNITE4 clinical trial. The call can be accessed by dialing (844) 831-4023 (U.S. and Canada) or (731) 256-5215 (international). To access the live audio webcast, or the subsequent archived recording, visit the "Investors Relations — Events & Presentations" section of the Tetraphase website at www.tphase.com. The webcast will be recorded and available for replay on the Tetraphase website for 30 days following the call.

About IGNITE4
IGNITE4 is a phase 3 randomized, double-blind, double-dummy, multicenter, prospective study that is designed to assess the efficacy, safety and pharmacokinetics of twice-daily intravenous eravacycline (1.0 mg/kg every 12 hours) compared with meropenem (1g every 8 hours) for the treatment of cIAI. The study enrolled 500 adult patients at 66 centers worldwide. The primary endpoint of IGNITE4 is clinical response at the test-of-cure (TOC) visit, which occurs 25 to 31 days after the initial dose of the study drug. The primary efficacy analysis was conducted using a 12.5% non-inferiority margin in the microbiological intent-to-treat (micro-ITT) population.

About Tetraphase Pharmaceuticals, Inc.
Tetraphase is a clinical-stage biopharmaceutical company using its proprietary chemistry technology to create novel antibiotics for serious and life-threatening bacterial infections, including those caused by many of the multidrug-resistant (MDR) bacteria highlighted as urgent public health threats by the CDC. Tetraphase has created more than 3,000 novel tetracycline analogs using its proprietary technology platform. Tetraphase's pipeline includes three antibiotic clinical candidates: eravacycline, which is in phase 3 clinical trials, and TP-271 and TP-6076, which are in phase 1 clinical trials. Please visit www.tphase.com for more company information.

Forward-Looking Statements
Any statements in this press release about our future expectations, plans and prospects, including statements regarding our strategy, future operations, prospects, plans and objectives, and other statements containing the words "anticipates," "believes," "expects," "plans," "will" and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: whether results obtained in previous clinical trials will be indicative of results obtained in future clinical trials; whether eravacycline or any other clinical candidate will advance through the clinical trial process on a timely basis or at all; whether the results of the Company's development efforts will warrant regulatory submission and whether any such submissions will receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies; whether, if any clinical candidate obtains approval, it will be successfully distributed and marketed; and other factors discussed in the "Risk Factors" section of our quarterly report on Form 10-Q, filed with the Securities and Exchange Commission on May 8, 2017. In addition, the forward-looking statements included in this press release represent our views as of July 25, 2017. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at

some point in the future, we specifically disclaim any obligation to do so.

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