WBB Securities, LLC

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INITIATING COVERAGE – SEPTEMBER 27, *2013*

Tetraphase Pharmaceuticals, Inc. (NasdaqGM TTPH)

Initiating Coverage with a Speculative Buy Rating and a $13.50 Price Target

Current Price	$11.47

6 Month Price and Trading Volume

12 Month Target Price	**$13.50**
12-Month Trading Range	$7.00-$11.77
Market Capitalization (Mil)	$237.10
Shares Outstanding (Mil)	20.67
Avg. Daily Volume	116,058
L. T. Debt (Mil)	$9.0*
Dividend/Yield	N/A
Book Value P/S	$3.03
*As of 3/31/13	
NASDAQ Composite	3,787.43
S&P 500	1,698.67

Source **QUODD** -- Historical Performance on Page 8

Rating Legend:

Strong Buy – Should be aggressively purchased.
Buy - Should be purchased on market weakness…
Hold - Fairly valued.
Sell - Stock should be sold on market strength
Sell Short - Should be aggressively sold.
Speculative Buy – For aggressive accounts only

Fighting Back Against Difficult to Treat Bacteria

Tetraphase Pharmaceuticals, Inc. (TTPH) is a clinical stage company that is developing tetracycline-class antibiotics for treating Multi Drug Resistant (MDR) infections. TTPH holds an exclusive worldwide license from Harvard for a proprietary chemistry technology. The company's principal product is eravacycline, a clinical stage intravenous and oral antibiotic.

The fully synthetic TTPH approach facilitates development of novel and potent antibiotics with unique profiles. Creating new drugs in this class of antibiotics to address a wide variety of MDR bacteria has proven to be difficult. The most recently approved tetracycline derivative, was introduced in 2005 to treat infections resistant to other antimicrobials. Prior to this, the last time a tetracycline derivative gained approval from the FDA was 1971.

On September 3, 2013 TTPH dosed the first patient in the first of two Phase III trials of eravacycline in two different indications. This first Phase III trial will test for treatment of complicated intra-abdominal infections (cIAI). The next Phase III trial will test for treatment of complicated urinary tract infections (cUTI). Data read-out for the first Phase III trial is planned for 2H-2013. The second Phase III is planned to begin during 4Q-2013 and top-line readout of both Phase III studies is expected 1Q-2015.

On July 15, 2013, the FDA designated eravacycline as a Qualified Infectious Disease Product (QIDP) for cIAI and cUTI indications. This designation will make eravacycline eligible for antibiotic development incentives under the Generating Antibiotic Incentives Now Act (GAIN

Act). These incentives include priority review, eligibility for fast-track status and upon approval an additional five-year extension of Hatch-Waxman exclusivity.

The company also is engaged in a research and development program that has yielded two preclinical antibiotics thus far. They are TP-834 and TP-271 for treatment of respiratory diseases and the company is engaged in a Pseudomonas/Gram-negative program.

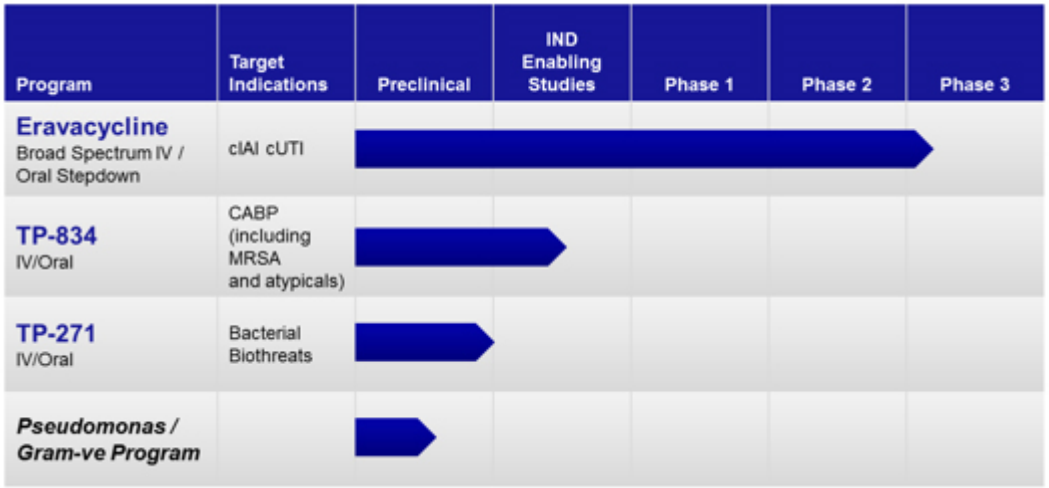
With antibiotic resistant bacteria posing a severe public health threat and few large pharmaceutical companies investing in new antibiotics, we believe TTPH shows excellent prospects for bringing a new, effective antibiotic to market. We are therefore initiating coverage of TTPH with a Speculative Buy rating and a 12-month price target of $13.50.

Valuation

Antibiotic-resistant bacteria is a growing worldwide health threat. With few new antibiotics to treat multi-drug resistant strains, new broad spectrum drug candidates promise to be rewarding once approved. TTPH has recently begun the first of two Phase III trials in different indications. Both must be successful before the company can file an NDA. In evaluating any new drug that is entering its first Phase III trial, we must keep in mind the uncertainty of the capital markets and the unpredictable nature of FDA approval. We are therefore initiating coverage of TTPH with a Speculative Buy Rating. We arrive at our 12-month price target using a discounted cash flow model for the years between 2015 and 2020, assuming a 50% probability of product approval and a discount rate of 20%. We also are incorporating four different blended cash flow models. Based on our calculation, we arrive at an adjusted price value of $13.50 and we are initiating coverage of TTPH with a Speculative Buy rating.

Product Pipeline

Since its inception six years ago, TTPH has developed one Phase III product and two preclinical drugs to address MDR infections.



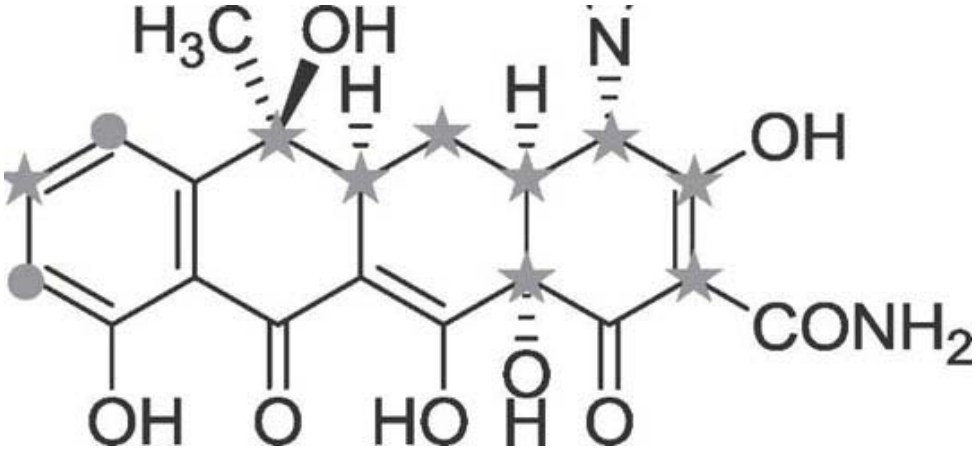
Source: Tetraphase Pharmaceuticals, Inc.

Proprietary Technology

The tetracycline class of antibiotics has been used successfully for more than 50 years. Traditionally, all tetracycline compounds are naturally occurring or have been produced semi-synthetically (first in bacteria and then chemically modified). This approach has only been able to produce tetracycline antibiotics with limited chemical diversity, making it difficult to create tetracycline antibiotics that address a wide variety of MDR bacteria.

TTPH creates novel tetracycline antibiotics using a proprietary, fully synthetic process that enables chemical modification on many positions in the tetracycline scaffold, including positions that could not practically be modified by any previous method. This capability enables TTPH to create a wider variety of tetracycline-based compounds than previously possible, resulting in MDR tetracyclines.

The following diagram demonstrates the flexibility of the TTPH process. The diagram represents the tetracycline scaffold. Positions marked with large dots are those that can be altered using conventional chemical synthesis. TTPH has demonstrated ability to alter the positions marked by large dots with greater flexibility than with chemical processes. The positions marked with stars are additional locations TTPH has demonstrated it can alter using its synthetic process. The unmarked positions are also modifiable but they are the locations that bind with bacterial ribosomes. Hence, modifying them would reduce antibacterial effectiveness. TTPH has created more than 2,800 tetracycline derivatives that could not be created using conventional methods. The company's program is focused on creating novel compounds that will be effective against the toughest MDR Gram-negative bacteria.



Source: Tetraphase Pharmaceuticals, Inc.

The War Against Bacteria

A few weeks ago, the U.S. Centers for Disease Control launched a new offensive in the ongoing war against antibiotic-resistant bacteria, A new report on the growing threat of

resistance to widely used antimicrobial drugs highlighted the impending threat. The first sentence in the CDC report said, “Overuse of antibiotics has helped create bacteria that are outliving the drugs used to treat them.”

This is not the first time the CDC and others in the public health community have raised the alarm about the threat of resistant bacteria. More than a year and a half ago, the Director General of the World Health Organization said we are facing “an end to modern medicine as we know it. Things as common as strep throat or a child’s scratched knee could once again kill.”

The CDC Web site lists 18 bacteria that are resistant to antibiotics. Each year in the United States, at least two million people become infected with bacteria that are resistant to antibiotics, and at least 23,000 people die each year as a direct result of these infections. Many more people die from other conditions that are complicated by an antibiotic-resistant infection.

Though over-prescribing of antibiotics to humans has been a factor in fostering drug-resistant bacteria, the overwhelming abuse of antibiotics has been in food-producing animals. The CDC reports that 70 percent of all antibiotics used in the U.S. are administered to food-producing animals. These antibiotics are not only used to treat diseased animals, but to prevent disease among animals that live in close proximity or to stimulate faster growth.

Antibiotic overuse in food producing animals is not the only cause of antibiotic resistance. Over the seventy years that antibiotics have been in widespread use they have often been over prescribed and hospital-acquired infections have become a significant challenge. In the past few years, doctors have become increasingly vigilant about antibiotic prescriptions and many hospitals are introducing new protocols to reduce the spread of infections, but much of the damage to existing antibiotics has been done.

Efforts to slow down the rate of growing resistance to antibiotics are essential but only stop-gap measures. What is needed is a new generation of antibiotics that are fully effective against common as well as rare infections. Sadly, large pharmaceutical companies have been laggard in the quest to develop new antibiotics because they would rather develop drugs that people take daily for the rest of their lives. It has been the smaller, development-stage companies like TTPH that have focused on bringing antibiotics to market that will stem the tide of resistance. Companies like TTPH have received a competitive benefit from recent legislation that has provided added incentives for companies to develop new antibiotics.

Eravacycline

Eravacycline (TP-434)

The TTPH lead product candidate is eravacycline. It is being developed as a broad-spectrum intravenous and oral antibiotic for use as a first-line monotherapy for the treatment of MDR infections. During *in vitro* studies it was shown to be effective against a wide range of Gram positive and Gram negative aerobic and anaerobic pathogens, including carbapenem-resistant microbes, community-acquired methicillin-resistant *Staphylococcus aureus* (MRSA) strains, vancomycin-resistant *Enterococcus faecium* and penicillin-resistant strains of *Streptococcus*

pneumoniae. A Phase III clinical trial of eravacycline against cIAI was initiated in September 2013.

In February 2012, the Biomedical Advanced Research and Development Authority (BARDA) awarded TTPH, in collaboration with the Calspan-University of Buffalo Research Center in Buffalo, NY (CUBRC-not listed), a contract worth up to $67 million for the development of eravacycline, from which TTPH may receive up to approximately $40 million in funding. The contract calls for TTPH to provide pre-clinical efficacy and toxicology studies; clinical studies; manufacturing activities; and associated regulatory activities to position eravacycline as a countermeasure for treatment of Anthrax, Tularemia and Bubonic Plague. CUBRC serves as the prime contractor under the BARDA contract. TTPH serves as lead technical expert and subcontractor responsible for management of chemistry, manufacturing and control activities, and clinical studies.

TP834

TP-834 is in preclinical development for treatment of moderate-to-severe community-acquired bacterial pneumonia (CABP) with IV/oral administration. TP-834 will be developed as a monotherapy with once-daily dosing, targeting key CABP pathogens, including penicillin- and fluoroquinolone-resistant organisms and atypicals.

TP271

TP-271 is a preclinical antibiotic being developed to combat respiratory disease caused by bacterial biothreats and antibiotic-resistant public health pathogens. TP-271 is anticipated to protect against Tularemia, Bubonic Plague and Anthrax disease, as well as CABP, which also could become a commercial market opportunity.

The National Institute of Allergy and Infectious Diseases (NIAID), awarded a $36 million contract in October 2011 to TTPH and prime contractor, CUBRC, for development, manufacturing, and clinical activities of TP271, from which TTPH could receive up to $13 million.

Management

Guy Macdonald, President, CEO, Board Member since January 2008. From August 2003 until January 2008, he served as Executive Vice President, Operations, of Idenix Pharmaceuticals, Inc. He served at Merck & Co., Inc from 1981 to 2003, most recently as the Vice President for Anti-Infective and Hospital Products. He received an Honours Degree in biochemistry from Dundee University in Dundee, Scotland.

Patrick Horn, M.D., Ph.D, Chief Medical Officer since January 2011. Prior to TTPH, he served as Vice President, Clinical & Medical Affairs at Dyax Corporation, Abbott Laboratories, most recently as Medical Director, Head of Clinical Pharmacology. He received a B.S. in Chemistry from the University of Illinois, doctorate in the Pharmacological and Physiological Sciences from the University of Chicago and an M.D. from the University of Chicago, Pritzker School of Medicine.

David Lubner, Senior Vice President and CFO since October 2010 and prior to that on a part-time basis as Senior Vice President and Chief Operating Officer. He also served as Chief Financial Officer of Mediphase Venture Partners, a venture capital firm, Vice President and Chief Financial Officer at PharMetrics, Inc., a pharmacy and medical claims data informatics company, and Vice President and Chief Financial Officer of ProScript, Inc., a biotechnology company. Mr. Lubner received a B.S. in business administration from Northeastern University and an M.S. in Taxation from Bentley University.

Magnus Ronn, Ph.D., Vice President, Chemistry, Manufacturing and Control since October 2009 and as Senior Director for Chemistry, Manufacturing and Control from 2006 until September 2009. Prior to TTPH he served as a scientist at Millennium Pharmaceuticals, Inc. (now a Takeda company), Roche Colorado Corporation (now known as Corden Pharma Colorado, Inc.). He holds a B.S. in chemistry and a Ph.D. in organic chemistry from the University of Uppsala, Sweden.

Joyce Sutcliffe, Ph.D., Senior Vice President, Biology since May 2009. Prior to joining TTPH she served as Vice President, Research at NanoBio Corporation, Chief Research Scientist and Vice President, Biology at Rib-X Pharmaceuticals, Inc., and at Pfizer, Inc., for 16 years. She holds a B.S. in zoology from the University of Florida and a Ph.D. in microbiology from the University of Florida, Gainesville, and has held postdoctoral positions at the University of Massachusetts Medical School and the National Institutes of Health.

Leland Webster, Ph.D., Vice President, Business Development since January 2009. Prior to joining TTPH he served as Vice President, Corporate Development at Surface Logix, Inc, in various business development positions at ImmunoGen, and at Vertex Pharmaceuticals. He served as a Senior Analyst at MPM Capital L.P. and as a postdoctoral fellow in the Department of Biological Chemistry and Molecular Pharmacology at the Harvard Medical School. He holds a B.A. in biological sciences from Northwestern University, a Ph.D. in biochemistry from the University of Pennsylvania and an M.B.A. from the MIT Sloan School of Management.

Xiao-Yi Xiao, Ph.D.,Vice President, Medicinal Chemistry since September 2006. Prior to joining TTPH, he served as Senior Director of Discovery Chemistry at Miikana Therapeutics (now part of EntreMed), as Director of Discovery Chemistry at Syrrx, Inc. (now a Takeda Pharmaceuticals company), in various positions at Discovery Partners International (now part of Infinity Pharmaceuticals), and Affymax Research Institute. He holds a B.S. in chemistry from Zhongshan University, China, and a Ph.D. in organic and bio-organic chemistry from State University of New York, Stony Brook.

Board of Directors

L. Patrick Gage, Ph.D., Chairman since December 2011. From 1998 to 2002, he served as President of Wyeth Research (now part of Pfizer, Inc.) and Senior Vice President, Science and Technology. Prior to joining Wyeth Research, he served in various positions at Genetics Institute, Inc., first as head of Research and Development, then as Chief Operating Officer and eventually as President. Dr. Gage served in various positions in research management with Hoffmann-La Roche Inc., most recently as Vice President responsible for U.S. drug discovery.

Dr. Gage has served on the board of directors of Cytokinetics, Incorporated, since November 2009 and as Chairman of its board of directors since March 2010. Dr. Gage also currently serves on the board of directors of two privately held companies, Alvine Pharmaceuticals and Corridor Pharmaceuticals. He served on the board of directors of PDL BioPharma, Inc., as the Chairman of its board of directors and as its Interim Chief Executive Officer. Dr. Gage currently serves on the board of directors of a non-profit organization, the Marine Biological Laboratories. Dr. Gage received a B.S. in physics from the Massachusetts Institute of Technology and a Ph.D. in biophysics from the University of Chicago.

Garen Bohlin, Board of Directors Member since July 2010. He has served as Executive Vice President of Constellation Pharmaceuticals, as Chief Operating Officer of Sirtris Pharmaceuticals. He was the founding Chief Executive Officer of Syntonix Pharmaceuticals, Inc., held multiple executive positions at Genetics Institute and was a partner at Arthur Andersen & Co. Mr. Bohlin has served on the board of directors of Acusphere, Inc. He also currently serves on the board of directors of Precision Dermatology, Inc., a private company. He also served on the board of directors for Praecis Pharmaceuticals, Inc., that is now part of GlaxoSmithKline, and Targanta Therapeutics, Inc. that is now part of The Medicines Company. Mr. Bohlin received his B.S. in accounting and finance from The University of Illinois.

John G. Freund, M.D., member of the Board of Directors since October 2012. Dr. Freund co-founded Skyline Ventures in 1997 and has served as a partner at Skyline since its founding. Prior to joining Skyline, Dr. Freund served as managing director in the private equity group of Chancellor Capital Management, a private capital investment firm, he co-founded Intuitive Surgical, a medical device company, and served on its board of directors until 2000. Dr. Freund served in various positions at Acuson Corporation, a maker of ultrasound equipment that is now part of Siemens, most recently as Executive Vice President. Prior to joining Acuson, Dr. Freund was a general partner of Morgan Stanley Venture Partners. Dr. Freund was a general partner at Morgan Stanley & Co., an investment banking company, where he co-founded the Healthcare Group in the Corporate Finance Department in 1983. He has served on the board of directors of Mako Surgical Corp., a publicly traded medical device company and XenoPort, Inc., a publicly traded biopharmaceutical company. Dr. Freund also serves on the board of directors of two privately held companies, Advion and DiscoverX, and three U.S. registered investment funds managed by Capital Research and Management. He also previously served on the board of directors of three publicly traded companies, Map Pharmaceuticals, a biopharmaceutical company, Hansen Medical, a biotechnology company, and Sirtris Pharmaceuticals, a biopharmaceutical company. Dr. Freund is a member of the Advisory Board for the Harvard Business School Healthcare Initiative, and is a member of the Therapeutics Advisory Council of Harvard Medical School. Dr. Freund received a B.A. in history from Harvard College, an M.D. from Harvard Medical School, and an M.B.A. from Harvard Business School.

Steven R. Gullans, Ph.D., member of the Board of Directors since May 2010. Dr. Gullans co-founded Excel Venture Management and has served as a partner at Excel since its founding. Prior to co-founding Excel, Dr. Gullans co-founded RxGen, Inc., a privately held pharmaceutical services company, where he served as Chief Executive Officer and as a member of its board of directors. Dr. Gullans served as Chief Scientific Officer at U.S. Genomics, a pathogen-diagnostic technology company and was a faculty member at Harvard Medical School and Brigham and Women's Hospital. Dr. Gullans currently serves on the board

of directors of four privately held companies, Cleveland HeartLab, PathoGenetix, nanoMR and Catch.com. Dr. Gullans received a B.S. in biology at Union College, a Ph.D. in physiology at Duke University, and postdoctoral training at the Yale School of Medicine.

Historical and Future Performance

EPS	**2012**	**2013**	**2014**
Q1	*(13.42)A	(0.30)A	
Q2	*(0.50)A	(0.26)A	
Q3	unreported		
Q4	unreported		
Year end	(1.65)A	(1.41)E	(1.72)E
P/E	NM	NM	NM
EPS Growth	NM	NM	NM
FY Rev. (Mil)	7.6A	10.99E	12.15E
FY:DEC			

*As reported in S-1 Filed February 11, 2013

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	Percentage of Covered Securities	Percentage of Banking Clients
Buy	58%	21%
Hold	22%	0%
Sell	20%	0%

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