

## New Data Shows Greater In Vitro Potency for VIBATIV(R) (Telavancin) Against Multidrug-Resistant Gram-Positive Bacteria, Including MRSA, Compared to Alternative Antibiotic Treatments

### Data Presentations at 2015 ECCMID Conference Highlight Key Findings in Light of the Growing Global Threat of Antibiotic Resistance

GEORGE TOWN, GRAND CAYMAN -- (Marketwired) -- 04/24/15 -- Theravance Biopharma, Inc. (NASDAQ: TBPH) ("Theravance Biopharma" or the "Company") today announced new positive data from studies of VIBATIV<sup>®</sup> (telavancin), the Company's FDA-approved antibiotic. These studies' results will be the focus of presentations at the 25th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), being held over the next several days in Copenhagen, Denmark.

Results from these studies demonstrated the *in vitro* potency for VIBATIV against a broad collection of contemporary clinical pathogens (*Staphylococcal* and *Streptococcal spp.*) from hospitals in Europe and surrounding geographic regions during 2012-2013, including methicillin-resistant *Staphylococcus aureus* (MRSA). The findings demonstrated greater *in vitro* activity for VIBATIV in difficult-to-treat Gram-positive pathogens as compared to other well-known antibiotics such as vancomycin, daptomycin and linezolid. The potency differences for VIBATIV, as compared to the other antibiotics, were most significant when the target pathogen was categorized as multidrug-resistant (MDR).

"It is important to appreciate that VIBATIV has shown this activity against real-world bacteria strains that include pathogens, such as MRSA, that are not responding to treatment with a number of antibiotics. It is these difficult-to-treat and MDR bacteria that are at the center of the growing global threat of antibiotic resistance," said Frank Pasqualone, Senior Vice President, Development and Operations at Theravance Biopharma. "By remaining active against pathogens that are non-susceptible to daptomycin and/or resistant to vancomycin, VIBATIV provides clinicians an important antibiotic treatment option for some of their most problematic cases. We believe that this demonstration of greater *in vitro* potency against these challenging MDR Gram-positive bacteria compared to certain other well-known antibiotics highlights a key difference of VIBATIV in the fight against antibiotic resistance."

Data from the presented studies showed that unlike the comparator antibiotics, the *in vitro* potency of VIBATIV was consistent regardless of the susceptibility profile of the isolates, ranging from those broadly susceptible to antibiotic treatment to MDR strains. Combined, these studies' findings further supplement the extensive and well documented evidence of the *in vitro* potency of VIBATIV against a broad collection of difficult-to-treat and MDR Gram-positive clinical pathogens, including MRSA.

"We believe that these latest *in vitro* study results further support the position that VIBATIV is a key therapeutic option for patients in those instances in which vancomycin or other therapies are not effective or appropriate for treating infections that are susceptible to VIBATIV therapy," stated Jon Bruss, M.D., Vice President Clinical Development & Medical Affairs at Theravance Biopharma. "These represent important findings as we continue to work to educate physicians and healthcare practitioners on the ability of VIBATIV to serve as an essential tool in their antibiotic treatment armament, particularly in an environment in which many pathogens are becoming more challenging to treat."

VIBATIV is a bactericidal, once-daily, injectable lipoglycopeptide antibiotic with *in vitro* potency and a dual mechanism of action whereby telavancin both inhibits bacterial cell wall synthesis and disrupts bacterial cell membrane function. The drug's proven efficacy against difficult-to-treat infections has been demonstrated in several large, multinational registrational studies, which involved one of the largest cohorts of patients with MRSA infections studied to date. Additionally, there is extensive and well-documented evidence of the drug's *in vitro* potency and *in vivo* activity against a broad collection of bacterial pathogens, including those that are considered difficult-to-treat and multidrug-resistant.

#### About VIBATIV<sup>®</sup> (telavancin)

VIBATIV<sup>®</sup> was discovered internally in a research program dedicated to finding new antibiotics for serious infections due to *Staphylococcus aureus* and other Gram-positive bacteria, including MRSA. VIBATIV is a bactericidal, once-daily, injectable lipoglycopeptide antibiotic with *in vitro* potency and a dual mechanism of action whereby telavancin both inhibits bacterial cell wall synthesis and disrupts bacterial cell membrane function. VIBATIV for injection is approved in the U.S. for the treatment of hospital-acquired and ventilator-associated bacterial pneumonia (HABP/VABP) caused by susceptible isolates of *Staphylococcus aureus* when alternative treatments are not suitable. In addition, VIBATIV is approved in the U.S. for the

treatment of adult patients with complicated skin & skin structure infections (cSSSI) caused by susceptible isolates of Gram-positive bacteria, including *Staphylococcus aureus*, both methicillin-susceptible (MSSA) and methicillin-resistant (MRSA) strains.

Theravance Biopharma plans to market VIBATIV in markets outside the United States where the drug is approved through a network of partners. To date, the company has secured partners for VIBATIV in the following geographies - Europe, Canada, Middle East, North Africa, Israel, and Russia.

In Europe, VIBATIV is indicated for the treatment of adults with nosocomial pneumonia (NP) including ventilator associated pneumonia, known or suspected to be caused by MRSA. VIBATIV should be used only in situations where it is known or suspected that other alternatives are not suitable. VIBATIV is not currently indicated for the treatment of cSSSI in Europe.

Clinigen Group holds the commercial rights to market and distribute VIBATIV in Europe.

## **VIBATIV<sup>®</sup> Important Safety Information (U.S.)**

### **Mortality**

Patients with pre-existing moderate/severe renal impairment (CrCl  $\leq$ 50 mL/min) who were treated with VIBATIV<sup>®</sup> for hospital-acquired bacterial pneumonia/ventilator-associated bacterial pneumonia had increased mortality observed versus vancomycin. Use of VIBATIV in patients with pre-existing moderate/severe renal impairment (CrCl  $\leq$ 50 mL/min) should be considered only when the anticipated benefit to the patient outweighs the potential risk.

### **Nephrotoxicity**

New onset or worsening renal impairment occurred in patients who received VIBATIV. Renal adverse events were more likely to occur in patients with baseline comorbidities known to predispose patients to kidney dysfunction and in patients who received concomitant medications known to affect kidney function. Monitor renal function in all patients receiving VIBATIV prior to initiation of treatment, during treatment, and at the end of therapy. If renal function decreases, the benefit of continuing VIBATIV versus discontinuing and initiating therapy with an alternative agent should be assessed.

### **Fetal Risk**

Women of childbearing potential should have a serum pregnancy test prior to administration of VIBATIV. Avoid use of VIBATIV during pregnancy unless the potential benefit to the patient outweighs the potential risk to the fetus. Adverse developmental outcomes observed in three animal species at clinically relevant doses raise concerns about potential adverse developmental outcomes in humans. If not already pregnant, women of childbearing potential should use effective contraception during VIBATIV treatment.

### **Contraindication**

Intravenous unfractionated heparin sodium is contraindicated with VIBATIV administration due to artificially prolonged activated partial thromboplastin time (aPTT) test results for up to 18 hours after VIBATIV administration.

VIBATIV is contraindicated in patients with a known hypersensitivity to the drug.

### **Hypersensitivity Reactions**

Serious and potentially fatal hypersensitivity reactions, including anaphylactic reactions, may occur after first or subsequent doses. VIBATIV should be used with caution in patients with known hypersensitivity to vancomycin.

### **Geriatric Use**

Telavancin is substantially excreted by the kidney, and the risk of adverse reactions may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection in this age group.

### **Infusion Related Reactions**

VIBATIV is a lipoglycopeptide antibacterial agent and should be administered over a period of 60 minutes to reduce the risk of infusion-related reactions. Rapid intravenous infusions of the glycopeptide class of antimicrobial agents can cause "Red-man Syndrome" like reactions including: flushing of the upper body, urticaria, pruritus, or rash.

## QTc Prolongation

Caution is warranted when prescribing VIBATIV to patients taking drugs known to prolong the QT interval. In a study involving healthy volunteers, VIBATIV prolonged the QTc interval. Use of VIBATIV should be avoided in patients with congenital long QT syndrome, known prolongation of the QTc interval, uncompensated heart failure, or severe left ventricular hypertrophy.

## Most Common Adverse Reactions

The most common adverse reactions (greater than or equal to 10% of patients treated with VIBATIV) were diarrhea, taste disturbance, nausea, vomiting, and foamy urine.

Full Prescribing Information, including Boxed Warning and Medication Guide in the U.S., is available at [www.VIBATIV.com](http://www.VIBATIV.com).

## About Theravance Biopharma

The mission of Theravance Biopharma (NASDAQ: TBPH) is to create value from a unique and diverse set of assets: an approved product; a development pipeline of late-stage assets; and a productive research platform designed for long-term growth.

Our pipeline of internally discovered product candidates includes potential best-in-class opportunities in underserved markets in the acute care setting, representing multiple opportunities for value creation. VIBATIV<sup>®</sup> (telavancin), our first commercial product, is a once-daily dual-mechanism antibiotic approved in the U.S. and Europe for difficult-to-treat infections. TD-4208 is an investigational long-acting muscarinic antagonist (LAMA) being developed as a potential once-daily, nebulized treatment for COPD. Axelopran (TD-1211) is an investigational potential once-daily, oral treatment for opioid-induced constipation (OIC). Our earlier-stage clinical assets represent novel approaches for potentially treating diseases of the lung and gastrointestinal tract and infectious disease. In addition, we have an economic interest in future payments that may be made by GSK pursuant to its agreements with Theravance, Inc. relating to certain drug development programs, including the combination of fluticasone furoate, umeclidinium and vilanterol and (or the "Closed Triple").

With our successful drug discovery and development track record, commercial infrastructure, experienced management team and efficient corporate structure, we believe that we are well positioned to create value for our shareholders and make a difference in the lives of patients.

For more information, please visit [www.theravance.com](http://www.theravance.com).

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## About Clinigen Group (Clinigen SP)

The Clinigen Group is a specialty global pharmaceutical company headquartered in the UK, with offices in the U.S. and Japan. The Group, dedicated to delivering 'the right drug, to the right patient at the right time', has three operating businesses; Specialty Pharmaceuticals (Clinigen SP), Clinical Trials Supply (Clinigen CTS), and Global Access Programs (Clinigen GAP). Clinigen SP is focused on acquiring its own intellectual property in licensed, niche, hospital-only critical care medicines, increasing the value of these medicines by developing new formulations and indications, then registering and marketing them in defined global markets.

For more information, please visit [www.clinigengroup.com](http://www.clinigengroup.com)

*This press release contains certain "forward-looking" statements as that term is defined in the Private Securities Litigation Reform Act of 1995 regarding, among other things, statements relating to goals, plans, objectives and future events. Theravance Biopharma intends such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. Examples of such statements include statements relating to: the Company's strategies, plans and objectives, the Company's regulatory strategies and timing and results of clinical studies, the potential benefits and mechanisms of action of the Company's product and product candidates and the Company's expectations for product candidates through development and commercialization. These statements are based on the current estimates and assumptions of the management of Theravance Biopharma as of the date of the press release and are subject to risks, uncertainties, changes in circumstances, assumptions and other factors that may cause the actual results of Theravance Biopharma to be materially different from those reflected in the forward-looking statements. Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, among others, risks related to: delays or difficulties in commencing or completing clinical studies, the potential that results from clinical or non-clinical studies indicate the Company's product*

*candidates are unsafe or ineffective, the feasibility of undertaking future clinical trials for our product candidates based on FDA policies and feedback, dependence on third parties to conduct clinical studies, delays or failure to achieve and maintain regulatory approvals for product candidates, risks of collaborating with third parties to discover, develop and commercialize product and product candidates and risks associated with establishing and maintaining sales, marketing and distribution capabilities with appropriate expertise and supporting infrastructure. Other risks affecting Theravance Biopharma are described under the heading "Risk Factors" contained in Theravance Biopharma's Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on March 13, 2015. In addition to the risks described above and in Theravance Biopharma's other filings with the SEC, other unknown or unpredictable factors also could affect Theravance Biopharma's results. No forward-looking statements can be guaranteed and actual results may differ materially from such statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Theravance Biopharma assumes no obligation to update its forward-looking statements on account of new information, future events or otherwise, except as required by law.*

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Source: Theravance Biopharma

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