Theravance Biopharma Announces First Patient Dosed in Phase 2 Study of TD-1473 in Patients with Crohn's Disease

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Study to Evaluate Novel, Potent, Orally Administered and Gut-Selective pan-Janus Kinase (JAK) Inhibitor in Patients with Moderately to Severely Active Crohn's Disease

DUBLIN, Nov. 20, 2018 /PRNewswire/ -- Theravance Biopharma, Inc. (NASDAQ: TBPH) ("Theravance Biopharma" or the "Company") today announced dosing of the first patient in a Phase 2 clinical trial of TD-1473 in patients with Crohn's disease. TD-1473 is a novel, potent, orally administered and gut-selective pan-Janus kinase (JAK) inhibitor in development as a treatment for multiple inflammatory intestinal diseases. In contrast to other oral JAK inhibitors under development for inflammatory bowel disease, TD-1473 is specifically designed to act locally at the site of inflammation in the intestinal wall with minimal systemic exposure.

The Phase 2 study is a multi-center, randomized, double-blind, placebo-controlled, parallel-group study designed to evaluate the efficacy, safety and tolerability of TD-1473 in approximately 160 patients with moderately to severely active Crohn's disease. Patients will be randomized to receive one of two active doses of TD-1473 or placebo once daily for up to 12 weeks. The primary endpoint of the study is improvement in Crohn's Disease Activity Index (CDAI) score measured at 12 weeks. The study also includes an active treatment extension phase that will include those patients who complete the 12-week induction phase.

"We are excited to advance our gut-selective JAK inhibitor program into its first Phase 2 trial as we believe TD-1473 can produce potentially transformative therapeutic activity against inflammatory intestinal diseases. Clinical data generated to date provide us with confidence as we begin a comprehensive late-stage development program for TD-1473, encompassing this study in Crohn's disease and an upcoming Phase 2b/3 trial in patients with ulcerative colitis," said Brett Haumann, MD, Chief Medical Officer at Theravance Biopharma. "We are hopeful that findings from these trials will demonstrate desired therapeutic results in these indications with an acceptable safety profile, and further confirm the localization of biological activity within the intestine with minimal systemic exposure."

Theravance Biopharma previously announced positive results from a Phase 1b clinical trial of TD-1473 in 40 patients with ulcerative colitis, demonstrating localized biological activity and minimal systemic exposure, as well as a favorable safety and tolerability profile. These results formed the basis for progressing TD-1473 into larger clinical trials in Crohn's disease and ulcerative colitis. Based on these positive Phase 1b data and successful dialogues with U.S. Food and Drug Administration (FDA) and European Medicines Authority (EMA) regarding the late-stage development plan, Theravance Biopharma also plans to initiate a Phase 2b/3 induction and maintenance study of TD-1473 in patients with ulcerative colitis in late 2018 or early 2019.

About Theravance Biopharma and Janssen Strategic Collaboration

Theravance Biopharma and Janssen Biotech, Inc. have entered into a global co-development and commercialization agreement for TD-1473 and related back-up compounds for inflammatory intestinal diseases, including ulcerative colitis and Crohn's disease. Under the terms of the agreement, Theravance Biopharma received an upfront payment of $100 million and is eligible to receive up to an additional $900 million in potential payments, if Janssen elects to remain in the collaboration following the completion of certain Phase 2 activities. Theravance Biopharma together with Janssen will jointly develop and commercialize TD-1473 in inflammatory intestinal diseases, with the two companies sharing profits in the US and expenses related to a potential Phase 3 program.

About Gut-Selective Pan-Janus (JAK) Kinase Inhibition

JAK inhibitors function by inhibiting the activity of one or more of the Janus kinase family of enzymes (JAK1, JAK2, JAK3, TYK2) that play a key role in cytokine signaling. Inhibiting these JAK enzymes interferes with the JAK/STAT signaling pathway and, in turn, modulates the activity of a wide range of pro-inflammatory cytokines. JAK inhibitors are currently approved for the treatment of diseases such as rheumatoid arthritis and myelofibrosis, and have demonstrated therapeutic benefit for patients with ulcerative colitis. However, these products are known to have side effects associated with their systemic exposure.

TD-1473 is an internally-discovered JAK inhibitor that has demonstrated a high affinity for each of the JAK family of enzymes. Importantly, TD-1473 is a gut-selective treatment specifically designed to distribute adequately and predominantly to the tissues of the intestinal tract, treating inflammation in those tissues while minimizing its systemic exposure. Theravance Biopharma is focused on utilizing targeted JAK inhibitors for potential treatment of a range of inflammatory intestinal diseases including ulcerative colitis and Crohn's disease, which affect roughly 900,000 and 700,000 patients in the United States, respectively.

About Theravance Biopharma

Theravance Biopharma, Inc. ("Theravance Biopharma") is a diversified biopharmaceutical company with the core purpose of creating medicines that help improve the lives of patients suffering from serious illness.

In our relentless pursuit of this objective, we strive to apply insight and innovation at each stage of our business, including research, development and commercialization, and utilize both internal capabilities and those of partners around the world. Our research efforts are focused in the areas of inflammation and immunology. Our research goal is to design localized medicines that target diseased tissues, without systemic exposure, in order to maximize patient benefit and minimize risk. These efforts leverage years of experience in developing localized medicines for the lungs to treat respiratory disease. The first potential medicine to emerge from our research focus on immunology and localized treatments is an oral, gut-selective

pan-Janus kinase (JAK) inhibitor, currently in development to treat a range of inflammatory intestinal diseases. Our pipeline of internally discovered product candidates will continue to evolve with the goal of creating transformational medicines to address the significant needs of patients.

In addition, we have an economic interest in future payments that may be made by Glaxo Group or one of its affiliates (GSK) pursuant to its agreements with Innoviva, Inc. relating to certain programs, including Trelegy Ellipta.

For more information, please visit www.theravance.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, expectations 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 of clinical studies (including the data therefrom), the potential characteristics, benefits and mechanisms of action of the Company's product and product candidates, the Company's expectations for product candidates through development and potential regulatory approval and commercialization (including their potential as components of combination therapies and their differentiation from other products or potential products). 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, enrolling or completing clinical studies, the potential that results from clinical or non-clinical studies indicate the Company's product candidates are unsafe or ineffective (including when our product candidates are studied in combination with other compounds), risks that product candidates do not obtain approval from regulatory authorities, the feasibility of undertaking future clinical trials for our product candidates based on policies and feedback from regulatory authorities, dependence on third parties to conduct clinical studies, delays or failure to achieve and maintain regulatory approvals for product candidates, risks of collaborating with or relying on third parties to discover, develop, manufacture and commercialize products, and risks associated with establishing and maintaining sales, marketing and distribution capabilities with appropriate technical expertise and supporting infrastructure. Other risks affecting Theravance Biopharma are described under the heading "Risk Factors" contained in Theravance Biopharma's Form 10-Q filed with the Securities and Exchange Commission (SEC) on November 8, 2018 and Theravance Biopharma's other filings with the SEC. In addition to the risks described above and in Theravance Biopharma's 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.

Contact Information:

Theravance Biopharma

Alexander Dobbin
Head of Investor Relations
650-808-4045
investor.relations@theravance.com

Tim Brons
Vida Strategic Partners (media)
646-319-8981
tbrons@vidasp.com

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