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First Patient Treated With Titan Pharmaceuticals' Subdermal Implant For Parkinson's Disease

SOUTH SAN FRANCISCO, Calif., Oct. 11, 2017 /PRNewswire/ --Titan Pharmaceuticals, Inc. (NASDAQ: TTNP), a company developing proprietary therapeutics for the treatment of select chronic diseases utilizing its ProNeura™ long-term, continuous drug delivery technology, announced today that the first patient has been treated in a Phase 1/2 trial of the company's ropinirole implant intended for the treatment of the signs and symptoms of idiopathic Parkinson's disease.

Ropinirole is a dopamine agonist currently available in daily or more frequently dosed oral formulations for the treatment of Parkinson's disease symptoms and restless leg syndrome. It is commonly used in conjunction with L-dopa to help control serious motor complications and dyskinesias that frequently occur in patients after several years of L-dopa treatment. Clinical studies have shown that these side effects are associated with fluctuating medication levels that occur with oral formulations. Titan's ropinirole implant, which was developed utilizing its ProNeura drug delivery technology, is designed for the long-term, continuous delivery of ropinirole HCL for the treatment of signs and symptoms of Parkinson's disease. Continuous delivery of ropinirole could potentially minimize the serious motor complications experienced by some patients on oral daily dosed formulations of the medication.

"Patients on oral formulations of dopamine and dopamine agonists will often develop serious motor complications and dyskinesias. These complications are due to the daily pattern of peak-trough levels of medication in the blood, duration and severity of disease, and the requirement of higher doses of levodopa. Providing a long-acting dopamine agonist with a flat pharmacokinetic profile can aid in reducing these complications," added Dr. Aaron Ellenbogen of the Michigan Institute of Neurological Disorders, and the Principal Investigator at the first trial site, near Detroit, Michigan. "With more than 10 million people worldwide suffering from Parkinson's disease, new and better treatments are needed and we look forward to further evaluating the potential of a ropinirole implant in this study."

This study is being conducted at three clinical research sites in the U.S. that specialize in the treatment of Parkinson's disease. The trial is an open-label, sequential, dose escalation study that will enroll approximately 20 subjects with idiopathic Parkinson's disease. The primary objectives are to characterize the pharmacokinetic profile of the ropinirole implants, to evaluate their safety and tolerability, and to explore potential signals of efficacy using established disease-specific assessment scales. Patients on a stable dose of L-dopa plus oral ropinirole will have their oral ropinirole switched to ropinirole implants for three months of treatment. Initial data from the first cohort of patients is expected in the first quarter of 2018 and the study completion is targeted for the end of next year.

"We are pleased to begin treating the first patient in this important study to evaluate the pharmacokinetic profile, safety and tolerability of our ropinirole implant, which is designed to deliver continuous, non-fluctuating levels of this dopamine agonist for up to three months," said Kate Beebe, PhD, Titan's executive vice president and chief development officer. "We believe our ropinirole implant has the potential to offer patients substantial benefits over existing daily and more frequently dosed oral formulations of ropinirole, and we look forward to continuing to enroll subjects in this study."

About Titan Pharmaceuticals
Titan Pharmaceuticals Inc. (NASDAQ:TTNP), based in South San Francisco, CA, is developing proprietary therapeutics primarily for the treatment of serious medical disorders. The company's lead product is Probuphine®, a novel and long-acting formulation of buprenorphine and the first and only commercialized treatment of opioid dependence approved by the U.S. Food and Drug Administration to provide continuous, around-the-clock blood levels of buprenorphine for six months following a single procedure. Probuphine employs Titan's proprietary drug delivery system ProNeura™, which is capable of delivering sustained, consistent levels of medication for three months or longer. Titan has granted commercial rights in the U.S. and Canada for Probuphine to Braeburn Pharmaceuticals. The ProNeura technology has the potential to be used in developing products for treating other chronic conditions such as Parkinson's disease and hypothyroidism, where maintaining consistent, around-the-clock blood levels of medication may benefit the patient and improve medical outcomes. For more information about Titan, please visit www.titanpharm.com.

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