October 28, 2016

# Probuphine® Implant for Opioid Dependence Featured at 2016 International Society of Addiction Medicine Meeting

PRINCETON, N.J. and SOUTH SAN FRANCISCO, Calif. and MONTREAL, Oct. 28,2016 /PRNewswire/ -- Braeburn Pharmaceuticals, Inc. and Titan Pharmaceuticals, Inc. (NASDAQ: TTNP) today announced that three Probuphine presentations were featured at the International Society of Addiction Medicine (ISAM) annual meeting in Montreal last week. Probuphine, a subdermal implant, is the first commercially available six-month maintenance treatment for opioid dependence.

According to the World Health Organization (WHO), an estimated 69,000 people die from opioid overdose each year worldwide. Addiction medicine professionals from around the world met at ISAM's 18th annual meeting to exchange ideas and explore new, innovative approaches to treating addiction. Probuphine was featured prominently among the 200 abstracts and 30 posters selected by ISAM. Specific presentations included:

- **Risk Evaluation and Mitigation Strategy (REMS) program data**: A description of the Probuphine REMS program that was implemented to train and certify healthcare providers to prescribe and implant Probuphine. As part of the REMS program, healthcare providers are required to successfully complete the program prior to implanting or prescribing Probuphine. The first groups of healthcare providers were trained two days after Probuphine was FDA-approved on May 26, 2016. A total of 2,400 healthcare providers were certified in the first eight weeks after approval. The trained Probuphine providers practice across specialties including family medicine/general practice, psychology/neurology, anesthesiology, and emergency medicine, among others.
- **Buprenorphine implants, extended-release injectable naltrexone and sublingual buprenorphine were evaluated using a Markov Model**. Buprenorphine implants were found to have clinical and economic benefits in clinically stable adults due to little or no potential for abuse or diversion and the sustained delivery of buprenorphine for up to six months. An earlier version of this data was featured as a poster presentation at the Academy of Managed Care Pharmacy (AMCP) annual meeting in April 2016
- **Probuphine Pivotal Trial Results:** Data from this landmark double-blind, double-dummy trial were the basis for Braeburn's New Drug Application that led to FDA approval of Probuphine, which was developed using ProNeura™, Titan's long-term continuous drug delivery platform. These data were presented earlier this year at the American Society of Addiction Medicine (ASAM) annual meeting in April 2016 and also published in the *Journal of American Medical Association* (JAMA) in July 2016. Highlights included data that showed clinically-stable patients were maintained over a six-month period when transferred to Probuphine. In addition, 96.4% of patients using

Probuphine remained free from illicit opioid use over the six-month course of treatment.

"Sparking conversation and educating the global addiction medicine leaders on the potential value of Probuphine is essential to making the treatment available to more patients and providers," said Behshad Sheldon, President and CEO, Braeburn Pharmaceuticals. "The continued interest and discussion about Probuphine at forums like ISAM's annual meeting indicates the need for more treatment options to better customize care for individual patients."

"As the only six-month long-term maintenance treatment for opioid dependence on the market today, Probuphine stands to play a significant role in treating opioid addiction," said Sunil Bhonsle, President and CEO, Titan. "We are pleased with the strong interest the medical community has expressed in Probuphine at forums such as ISAM, and during the successful training program implemented by Braeburn, and look forward to seeing Probuphine become more accessible to providers and patients."

**About Probuphine**

Probuphine is the only six-month treatment for opioid dependence that delivers buprenorphine continuously using Titan Pharmaceuticals' (NASDAQ: TTNP) ProNeura™ technology. Probuphine is placed under the skin of the upper arm during an outpatient office procedure and is removed in a similar manner. Probuphine is available through a closed distribution system. To learn more about how to obtain visit: www.braeburnaccessprogram.com. Qualified healthcare providers can register for Probuphine training at www.probuphineREMS.com or by calling 1-866-397-8939. Probuphine is available in all 50 U.S. States; people interested in finding a provider in their area can visit www.probuphinerems.com/probuphine-locator.

**Probuphine Indication and Important Safety Information**

PROBUPHINE is indicated for the maintenance treatment of opioid dependence in patients who have achieved and sustained prolonged clinical stability on low-to-moderate doses of a transmucosal buprenorphine-containing product (i.e., doses of no more than 8 mg per day of Subutex or Suboxone sublingual tablet or generic equivalent).

PROBUPHINE should be used as part of a complete treatment program to include counseling and psychosocial support.

PROBUPHINE is not appropriate for new entrants to treatment and patients who have not achieved and sustained prolonged clinical stability, while being maintained on buprenorphine 8 mg per day or less of a Subutex or Suboxone sublingual tablet or generic equivalent.

**WARNING: IMPLANT MIGRATION, PROTRUSION, EXPULSION and NERVE DAMAGE ASSOCIATED WITH INSERTION and REMOVAL**

**Risk Associated with Insertion and Removal**

**Insertion and removal of PROBUPHINE are associated with the risk of implant migration, protrusion, expulsion resulting from the procedure. Rare but serious complications including nerve damage and migration resulting in embolism and death may result from improper insertion of drug implants inserted in the upper arm.**

**Additional complications may include local migration, protrusion and expulsion. Incomplete insertions or infections may lead to protrusion or expulsion.**

**Because of the risks associated with insertion and removal, PROBUPHINE is available only through a restricted program called the PROBUPHINE REMS Program. All Healthcare Providers must successfully complete a live training program on the insertion and removal procedures and become certified, prior to performing insertions or prescribing PROBUPHINE implants. Patients must be monitored to ensure that PROBUPHINE is removed by a healthcare provider certified to perform insertions.**

Please see additional Important Safety Information in the Package Insert that can be found at probuphine.com or by following this link http://probuphinerems.com/wp-content/uploads/2016/02/final-approved-pi.pdf.

**About Opioid Use Disorder and Buprenorphine**
Opioid use disorder is a chronic brain disease and one of the fastest growing public health epidemics in America. In the U.S., 2.6 million people struggle with opioid addiction and, according to the Centers for Disease Control, 78 people die each day from the disease. There is a growing body of evidence that opioid addiction is not a choice or a moral failing, but the result of genetic predisposition combined with environmental factors. Nonetheless, individuals struggling with this disease continue to be stigmatized. Research has also shown that opioid use disorder is best treated with a combination of medication and psychosocial support. The majority of individuals with opioid addiction cannot sustain recovery without long-term, outpatient medical treatment.

Buprenorphine is a partial opioid agonist, which may help individuals to stop opioid use without experiencing withdrawal symptoms. Before FDA approval of Probuphine, buprenorphine was only available in oral form which must be taken daily.

**About Braeburn Pharmaceuticals**
Braeburn Pharmaceuticals, an Apple Tree Partners company, is a commercial-stage pharmaceutical company delivering individualized medicine in neuroscience. Long-acting therapeutic treatment options can be essential to improving patient outcomes and facilitating recovery in neurological and psychiatric disorders, which are often complicated by stigma and present significant public health challenges. Probuphine, Braeburn's long-acting buprenorphine implant, was approved by the FDA in May 2016. Braeburn's investigational product pipeline consists of long-acting, implantable and injectable therapies for serious neurological and psychiatric disorders, including opioid addiction, pain, and schizophrenia. Braeburn's pipeline products are at various stages of clinical development and include CAM2038, weekly and monthly subcutaneous injection depot formulations of buprenorphine, being investigated in opioid addiction and pain; and a risperidone six-month implant being investigated in schizophrenia. More information on Braeburn, can be found at www.braeburnpharmaceuticals.com.

**About Titan Pharmaceuticals**
Titan Pharmaceuticals Inc. (NASDAQ: TTNP), based in South San Francisco, CA, is a specialty pharmaceutical company developing proprietary therapeutics primarily for the treatment of serious medical disorders. The company's lead product candidate is Probuphine®, a novel and long-acting formulation of buprenorphine for the long-term

maintenance treatment of opioid dependence. 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 for the U.S. and Canada for Probuphine to Braeburn Pharmaceuticals. Approved by the FDA in May 2016, Probuphine is the first and only commercialized treatment of opioid dependence to provide continuous, around-the-clock blood levels of buprenorphine for six months following a single procedure. 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.

**Contacts:**

Sherry Feldberg for Braeburn Pharmaceuticals
MSLGROUP
781-684-0770
braeburnpharma@mslgroup.com

Titan Pharmaceuticals, Inc.
Sunil Bhonsle
President
(650)-244-4990

Investors:
Stephen Kilmer
(650) 989-2215
skilmer@titanpharm.com

Media:
Susan Thomas
(650) 989-2216
sthomas@titanpharm.com

SOURCE Braeburn Pharmaceuticals; Titan Pharmaceuticals