



KemPharm, Inc. Expands Pain Therapy Pipeline with Discovery of KP511

Novel Prodrug of Hydromorphone Developed Using KemPharm's Ligand Activated Therapy (LAT)

North Liberty, IA – October 26, 2011 – KemPharm, Inc. today announced it plans to initiate development of its recently identified lead compound KP511, a first-in-class oral prodrug of hydromorphone, which is a commonly used medication for the management of pain in patients where an opioid analgesic is appropriate. KP511 was identified using the Company's Ligand Activated Therapy (LAT) approach. KP511 is the second product candidate in KemPharm's pain therapy portfolio, which also includes KP201, a prodrug of hydrocodone that is on track for an NDA filing in early 2013.

In preclinical studies, KP511 exhibited superior pharmacological characteristics that may suggest an improved safety profile compared to currently marketed hydromorphone products, possibly reducing or preventing symptoms of constipation and limiting abuse potential. KP511 also features tamper resistant properties that make it difficult to extract hydromorphone from the prodrug, which is not active until cleaved in the body.

"We are excited about our discovery of KP511 because it broadens our opioid pain franchise and promises improved treatment outcomes for patients," commented Travis Mickle, Ph.D., President and Chief Executive Officer at KemPharm. "Our goal is to create prescribing options for physicians to treat pain without the liabilities of drug abuse and diversion or the negative side effect of constipation typically associated with opioids."

"KP511 further emphasizes our comprehensive LAT platform and prodrug expertise," stated Sven Guenther, Ph.D., Vice President of Research at KemPharm. "KP511 represents our fourth lead molecule to be advanced from the KemPharm discovery team over the last four years, which is tremendous productivity given the size of our company."

About KP511

KP511, KemPharm's preclinical candidate for the treatment of moderate to severe pain, is composed of hydromorphone attached to a ligand. Preclinical studies suggest that KP511 may potentially exhibit unique abuse deterrent properties and lower the incidence of constipation based on its physicochemical and pharmacological characteristics as compared with currently approved narcotic analgesics. Additionally, KemPharm is seeking patent protection covering key aspects of KP511.

About KP201

KP201, KemPharm's lead clinical prodrug candidate for the treatment of moderate to severe pain, is a prodrug of hydrocodone. Preclinical studies suggest that KP201 may potentially exhibit unique abuse deterrent properties and lower incidence of constipation based on its physicochemical and pharmacological characteristics as compared with currently approved narcotic analgesics. KemPharm believes it may be able to use the 505(b)(2) regulatory pathway for a more rapid development timeline.

About KemPharm, Inc.

KemPharm, Inc. is focused on the discovery and development of new chemical entities (NCEs) to treat serious medical conditions through its proprietary LAT prodrug approach. KemPharm utilizes its LAT prodrug technology to generate improved versions of FDA approved drugs. The Company's business strategy includes seeking strategic development partners following rapid clinical proof of concept demonstration in a Phase 1 trial. KemPharm also plans to explore discovery stage alliances with industry leaders, leveraging its prodrug know-how and LAT technology. KemPharm is developing candidates for ADHD, pain, and other central nervous system disorders.
www.kempharm.com

Forward Looking Statements and Information

This release contains forward-looking statements which are not based upon historical fact, including, without limitation, "will," "should," "expect," "anticipate," "plan," "predict," "believe," "may" and "project." Such statements, including statements relating to developments, progress, timelines, plans of our clinical and preclinical programs, and potential benefits of KemPharm Inc.'s product candidates, involve various assumptions, known and unknown risks, and uncertainties which may cause actual results or events to be materially different and adverse from those expressed in or implied by the forward-looking statements. Such assumptions, risks and uncertainties may relate to difficulties or delays in discovery, development, testing, and regulatory approval of the company's product candidates, results that are inconsistent with preclinical results, unexpected adverse side effects, or inadequate therapeutic efficacy of the product candidates. The forward-looking statements in this release speak only as of this date, and KemPharm disclaims any obligation to update publicly any forward-looking statement to reflect the occurrence of events or circumstances after the date hereof.

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