



'Headache' Publication Describes Potential Mechanistic Rationale for LEVADEX(TM) Favorable Adverse Event Profile

MOUNTAIN VIEW, Calif., Sept 22, 2009 /PRNewswire-FirstCall via COMTEX News Network/ -- MAP Pharmaceuticals, Inc. (Nasdaq: MAPP) today announced publication of results from an in vitro study of its novel LEVADEX(TM) (MAP0004) orally inhaled migraine therapy in development exploring the potential mechanism by which the pharmacokinetics (PK) and pharmacodynamics of LEVADEX may produce fewer adverse events than those seen with intravenous dihydroergotamine (DHE). Results will be published in a manuscript titled Reduced Adverse Event Profile of Orally Inhaled DHE (MAP0004) vs IV DHE: Potential Mechanism in an upcoming issue of Headache: The Journal of Head and Face Pain and are available currently in the online version.

LEVADEX, a novel formulation of DHE that is administered via oral inhalation using the company's proprietary TEMPO(R) inhaler, recently met all four primary endpoints in the efficacy portion of a Phase 3 clinical trial. As presented in a late-breaking session at the 14th Congress of the International Headache Society, in the trial LEVADEX provided therapeutic levels of DHE but with lower rates of adverse events, such as dizziness, nausea and paresthesia, than those historically seen with intravenous dosing of DHE.

The in vitro study measured receptor binding and functional activity of DHE at the maximum plasma concentrations (C_{max}) achieved in human PK trials after IV administration or after LEVADEX inhalation. The IV DHE C_{max} was at least ten times higher than LEVADEX C_{max} while the AUCs were approximately the same. The lower LEVADEX C_{max} was associated with markedly different receptor binding and functional activity. LEVADEX provided C_{max} levels sufficiently high to trigger anti-migraine receptors to the same degree as IV dosing, but did not stimulate receptors thought to be responsible for the adverse event profile characteristics of IV DHE.

"We believe that these receptor studies could explain the lower adverse event incidence seen in clinical trials with LEVADEX to date because of the novel pharmacokinetic profile of our formulation and delivery method," said Shashidhar H. Kori, M.D., vice president of clinical development and medical affairs of MAP Pharmaceuticals. "In Phase 2 and Phase 3 clinical trials, LEVADEX has shown the potential to provide rapid and sustained relief of migraine symptoms and good tolerability for patients. Based on our receptor studies and clinical trials to date, we believe that LEVADEX has the potential to provide a treatment alternative for the many patients who suffer from the debilitating effects of migraine."

About LEVADEX(TM)

LEVADEX orally inhaled migraine therapy is a novel migraine therapy in Phase 3 development. Patients administer LEVADEX themselves using the company's proprietary TEMPO inhaler. LEVADEX has been designed to be differentiated from existing migraine treatments. It is a novel formulation of dihydroergotamine (DHE), a drug used intravenously in clinical settings to effectively and safely treat migraines. Based on clinical results, the company believes that LEVADEX has the potential to provide both fast onset of action and sustained pain relief and other migraine symptom relief in an easy-to-use and non-invasive at-home therapy.

LEVADEX is designed to incorporate the multiple beneficial mechanisms of action that allow DHE to block initiation of migraine, limit pain, reduce inflammation and stop a migraine at any point in the migraine cycle. Based on research to date, including the FREEDOM-301 trial, the company believes the unique pharmacokinetic profile of LEVADEX has the potential to effectively treat migraines, while minimizing the side effects commonly seen with DHE and other currently available medicines.

About Migraine

Common symptoms of migraine include recurrent headaches, nausea, vomiting, photophobia (sensitivity to light) and phonophobia (sensitivity to sound). According to the National Headache Foundation, most migraines last between four and 24 hours, but some last as long as three days. On average, migraine sufferers experience 1.5 migraine attacks monthly, although 25 percent of them experience one or more attacks weekly, according to published studies. Migraine patients report that currently approved drugs do not fully meet their needs due to slow onset of action, short duration of effect, inconsistent response and unacceptable side effect profiles. The economic burden of migraine remains substantial despite existing treatments, with the direct and indirect costs of migraine in the United States estimated at over \$20 billion annually.

About MAP Pharmaceuticals

MAP Pharmaceuticals is dedicated to developing and commercializing new therapies for patients suffering from conditions that are not adequately treated by currently available medicines. The company is developing LEVADEX inhaled therapy for the potential treatment of migraine and has reported positive results from the efficacy portion of the first Phase 3 trial of LEVADEX. In addition, MAP Pharmaceuticals generates new pipeline opportunities by applying its proprietary drug particle and inhalation technologies to enhance the therapeutic benefits of proven drugs, while minimizing risk by capitalizing on their known safety, efficacy and commercialization history.

Additional information about MAP Pharmaceuticals can be found at <http://www.mappharma.com>.

LEVADEX and TEMPO are trademarks of MAP Pharmaceuticals, Inc.

Forward-Looking Statements

In addition to statements of historical facts or statements of current conditions, this press release contains forward-looking statements, including with respect to MAP Pharmaceuticals' LEVADEX product candidate. Actual results may differ materially from current expectations based on risks and uncertainties affecting the company's business, including, without limitation, risks and uncertainties relating to the following: risks related to the failure to achieve favorable clinical outcomes and to have the company's LEVADEX product candidate approved for commercial use. The reader is cautioned not to unduly rely on the forward-looking statements contained in this press release. MAP Pharmaceuticals expressly disclaims any intent or obligation to update these forward-looking statements, except as required by law. Additional information on potential factors that could affect MAP Pharmaceuticals' results and other risks and uncertainties are detailed in its Annual Report on Form 10-K for the year ended December 31, 2008, as amended, and its Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 and available at <http://edgar.sec.gov>.

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