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CPEX's Nasulin Insulin Therapy Featured in an Oral Presentation and Four Abstracts at the Ninth Annual Diabetes Technology Meeting

Exeter, NH, November 5, 2009 – CPEX Pharmaceuticals, Inc. (NASDAQ: CPEX) today announced that its intranasal insulin product candidate, Nasulin™, will be featured in an oral presentation and four abstracts at the Ninth Annual Diabetes Technology Meeting, November 5-7, 2009 at the Hyatt Regency Airport in San Francisco, California. Dr. Lance Berman, Senior Vice President and Chief Medical Officer, is scheduled to deliver an oral presentation entitled “The Technology and Clinical Aspects of Nasal Insulin Therapy” at 9:30 a.m. PST on Saturday, November 7. Further details on the abstracts are provided below.

A Randomized 6-Way Crossover Study of Nasulin™, Saline and Lispro in Subjects with Type 2 Diabetes to Determine Optimum Dose Timing

A similar glucose-lowering effect may be achieved by administering Nasulin either just before or at the end of the meal offering more flexibility of dosing than with injectable insulins.

Two Randomized Crossover Glucose Clamp Studies of Nasulin™ and Lispro

In both Type1 diabetic patients and healthy volunteers, peak glucose metabolism rates occurred earlier with ultra-rapid acting Nasulin than with rapid acting lispro. The pharmacodynamic profile indicates Nasulin has optimum activity when glucose levels rise during a meal with less potential for hypoglycemia in the hours after the meal has ended.

Dose-Exposure for Single and Dual Nostril Administration of Nasal Insulin (Nasulin™)

The findings from this study demonstrated significantly enhanced insulin absorption when a 50 IU dose is administered as 2 sprays of 25 IU given in the same nostril rather than one spray in each nostril. In addition, the study also demonstrated that nasal administration of up to 200 microliters per nostril was well tolerated allowing the administration of doses up to 100 IU. Together these findings provide an

improved dosing methodology and a higher maximum dose for evaluation in future clinical trials.

Dose-Exposure for Two Dose Strengths of Nasal Insulin (Nasulin™)

These data demonstrated that the original Nasulin concentration (1.0%) and the new concentration (0.7%) revealed proportional dose-dependent increases in insulin exposures.

Dr. Berman commented, “The data from these studies provide important information on Nasulin’s ability to rapidly lower glucose following a meal. With the completion of each study, we gain additional insight into the potential benefits Nasulin could offer to patients with diabetes. The most exciting aspect of these results is the second dose concentration, which will provide subjects in future clinical trials with a wider dose range to individually titrate their insulin needs to maximize glucose reduction without increasing the risk of hypoglycemia. These potential advantages of Nasulin’s ultra-rapid time-action profile may provide treating physicians and their patients safer alternatives for controlling their diabetes.”

About the Diabetes Technology Meeting

The Diabetes Technology Meeting is the second largest scientific diabetes meeting in the United States, after the American Diabetes Association’s annual Scientific Sessions meeting. Clinicians, industry leaders, and regulatory experts from all over the world attend this conference each year. This event is the only scientific meeting in the world that focuses on such a broad range of issues for diabetes treatment: engineering, regulatory, clinical, and business aspects of emerging diabetes devices for measuring glucose and other analyses; delivering insulin and other metabolic peptides; transmitting physiological data; increasing adherence to therapy; and closing the loop for automated treatment of diabetes. The meeting is presented by the Diabetes Technology Society in cooperation with Centers for Disease Control, U.S. Army, National Space Biomedical Research Institute, University of California at Berkeley, the Georgia Tech/Emory Center for Engineering of Living Tissues, and Mills-Peninsula Health Services.

About CPEX Pharmaceuticals

CPEX Pharmaceuticals, Inc. is an emerging specialty pharmaceutical company focused on the development, licensing and commercialization of pharmaceutical products utilizing CPEX’s validated drug delivery platform technology. CPEX has U.S. and international patents and other proprietary rights to technology that facilitates the absorption of drugs. CPEX has licensed applications of its proprietary CPE-215® drug delivery technology to Auxilium Pharmaceuticals, Inc. which launched Testim®, a topical testosterone gel, in 2003. CPEX is also developing a proprietary intranasal insulin product candidate, Nasulin™, which is currently in Phase 2 clinical trials. CPEX maintains its headquarters in Exeter, NH. For more information about CPEX, please visit www.cpexpharm.com.

Safe Harbor Statement under the U.S. Private Securities Litigation Reform Act of 1995:

This press release contains forward-looking statements, including, without limitation, statements regarding the prospects for CPEX’s development activities of Nasulin and the potential benefits Nasulin could offer patients with diabetes. These forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from future results expressed or implied by such statements. Factors that may cause such differences include, but are not limited to, risks associated with the following: clinical trials may not demonstrate the efficacy and safety of CPEX products, regulatory approvals may be delayed or not obtained, CPEX’s dependence on obtaining

agreements with other parties to conduct clinical trials and commercialize its product candidates that use its drug delivery technology, competition from other manufacturers of proprietary pharmaceuticals, CPEX's products may not achieve market acceptance or favorable reimbursement rates from health insurers, intellectual property litigation, and other uncertainties detailed under "Risk Factors" in CPEX's Annual Report on Form 10-K filed with the Securities and Exchange Commission dated March 25, 2009. CPEX cautions investors not to place undue reliance on the forward-looking statements contained in this release. These statements speak only as of the date of this document, and CPEX undertakes no obligation to update or revise the statements, except as may be required by law.