Xeris Pharmaceuticals Announces Positive Findings From the Outpatient Portion of a Phase 2 Proof-of-Concept Study of Its Developmental Ready-to-Use (RTU) Glucagon in Patients at Risk of Postprandial Hypoglycemia Following Bariatric Surgery

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Rebound hypoglycemia observed in the placebo arm with oral glucose tablet use; No rebound hypoglycemia observed in the RTU glucagon treatment arm

CHICAGO--(BUSINESS WIRE)--May 22, 2020-- Xeris Pharmaceuticals, Inc. (Nasdaq: XERS), a specialty pharmaceutical company leveraging its novel formulation platforms to develop and commercialize ready-to-use injectable and infusible drug formulations, today announced positive findings from the outpatient stage of a Phase 2 proof-of-concept study of its developmental ready-to-use (RTU) glucagon in patients who experience postprandial hypoglycemic episodes following bariatric surgery.

This was a Phase 2 prospective, randomized, placebo-controlled, double-blind proof-of-concept study that included an in-clinic stage followed by a 12-week outpatient stage. Subjects were randomly assigned to receive RTU glucagon or placebo during two separate meal challenges in an in-clinic stage crossover design, and then enter a parallel design outpatient stage where they were assigned to an investigational product for 12 weeks. In this study, subjects self-administered a mini dose (300 µg) of RTU glucagon or placebo when they experienced hypoglycemia symptoms (e.g., anxiety, nausea, sweating, tremors, palpitations), and blood glucose response was measured after the study drug is self-administered. In situations where hypoglycemia (blood glucose ≤ 70 mg/dl) is present at mini-dosing or continues after treatment, oral glucose tabs were recommended in addition to the study drug. For more information, visit www.clinicaltrials.gov Identifier: NCT03770637

Results from the 12 subject, 12-week outpatient stage recorded more than 200 postprandial hypoglycemia episodes across both treatment arms. Subjects frequently experienced postprandial episodes within 90-120 minutes after finishing meals and were able to successfully self-administer RTU glucagon during these events. Similar to the in-clinic stage, the sole use of a 300 µg RTU glucagon was adequate to restore or maintain normal blood glucose levels within 15 minutes of administration and maintained up to 120 minutes. During episodes when blood sugar was >70mg/dL at drug dosing, RTU glucagon and placebo were comparable in maintaining blood sugar within normal levels, and RTU glucagon did not elicit hyperglycemia. During episodes when blood sugar was <70 mg/dL at drug dosing and without the use of glucose tabs, RTU glucagon successfully restored blood glucose levels to normal levels (blood sugar ≥70 mg/dL) within 15 minutes, at a higher frequency when compared to placebo (91% versus 73%). When failures were observed, subjects in both treatment arms exhibited near-normal counterregulatory responses to hypoglycemia, sufficient to avoid severe hypoglycemia.

Subjects' use of glucose tablets, both during and after drug dosing as a follow-on rescue, was observed only within the placebo treatment arm. In this placebo arm, glucose tablet use during postprandial hypoglycemia episodes resulted in rebound hypoglycemia (29.4%). Rebound hypoglycemia was not observed in the RTU glucagon treatment arm.

Treatment emergent adverse events with RTU glucagon were comparable to placebo, including negligible injection site reactions. The most common related AE was nausea (16.7%) and vomiting (8.3%) that was mild in severity and self-limited. RTU glucagon (300 µg) appears safe and well tolerated, and no serious adverse events occurred.

"Post-bariatric hypoglycemia (PBH) is a rare complication of bariatric surgery that can significantly diminish the quality of life for those affected. Once diagnosed, the goal of PBH treatment is to reduce the frequency and severity of hypoglycemic events after meals. However, managing PBH is complex because patients often fail dietary intervention and we do not have effective pharmacotherapy," said Dr. Helen Lawler, MD, endocrinologist, Assistant Professor, Endocrinology, Diabetes and Metabolism at the University of Colorado School of Medicine. "Patients feel frustrated because of the limited therapeutic options, where unfortunately, today there are no approved therapies to treat PBH." Dr. Lawler continued, "This PBH research will help us understand the potential for ready-to-use glucagon to offer real-world benefits such as the avoidance of oral carbohydrates to treat postprandial hypoglycemia, reduced weight gain, and the reduction of rebound hypoglycemia."

"We are encouraged by the results of the completed proof-of-concept PBH study. The first half of this study demonstrated the utility of liquid, stable, ready-to-use glucagon in conditions beyond rescue for severe hypoglycemia, and demonstrating safety and effectiveness in situations that require self-administration by the patient," said Paul R. Edick, Xeris' Chairman and CEO. "We believe the completed outpatient stage study further establishes the safety profile and utility for mini dosing RTU glucagon in a real-world setting. Further evaluation of RTU glucagon in PBH is warranted, especially in those who manifest blunted counterregulatory responses to hypoglycemia, and in refractory disease." Mr. Edick continued, "We anticipate an end-of-phase 2 meeting with the FDA later this year to discuss a clinical path forward for this program."

About Post-Bariatric Hypoglycemia (PBH)

Approximately 200,000 weight loss (bariatric) surgeries are performed annually in the United States. Hypoglycemia that occurs after bariatric and other forms of upper gastrointestinal surgery is a condition called post-bariatric hypoglycemia (PBH). It usually occurs >6 months to 8 years after surgery and is an uncommon and rarely reported metabolic complication that can be severe and disabling for some patients. Hypoglycemia episodes from PBH occur 1-3 hours after meals (postprandial hypoglycemia), often at a frequency of >10 times per month. Persistent or unrecognized hypoglycemia from PBH can progress to severe hypoglycemia (blood glucose <54 mg/dL) with symptoms such as loss of consciousness, seizures, coma, and even death. When postprandial hypoglycemia episodes in PBH occur, they can be difficult to acutely treat with oral carbohydrates alone, because an overcompensation with oral carbohydrates can frequently trigger a subsequent hypoglycemia episode (rebound hypoglycemia).

About Glucagon

Glucagon is a metabolic hormone secreted by the pancreas that raises blood glucose levels by causing the liver to rapidly convert glycogen (the stored form of glucose) into glucose, which is then released into the bloodstream. Glucagon and insulin are two critical hormones in a glycemic control system that keep blood glucose at the right level in healthy individuals. In people with diabetes who are dependent on insulin, this control system is disrupted, and insulin must be injected to avoid high levels of blood glucose (hyperglycemia). The opposite effect, or low blood glucose (hypoglycemia), is also prevalent in this population due to dysregulated glucagon secretion. Severe hypoglycemia is a serious condition and can lead to seizures, coma, potential brain injury and, if untreated, death.

Glucagon is the standard of care for treating severe hypoglycemia. According to the American Diabetes Association, glucagon should be prescribed for all individuals at increased risk of clinically significant hypoglycemia, defined as blood glucose <54 mg/dL (3.0 mmol/L). Leveraging XeriSol™, one of Xeris' two proprietary formulation technology platforms, Xeris has the potential to provide the first ready-to-use, room-temperature stable liquid glucagon for use by people with diabetes and other conditions to prevent or manage various forms of hypoglycemia and improve glucose control.

About Xeris Pharmaceuticals, Inc.

Xeris (Nasdaq: XERS) is a specialty pharmaceutical company delivering innovative solutions to simplify the experience of administering important therapies that people rely on every day around the world. With a novel technology platform that enables ready-to-use, room-temperature stable formulations of injectable and infusible therapies, the company is advancing a portfolio of solutions in various therapeutic categories, including its first commercial product, Gvoke™. Its proprietary XeriSol™ and XeriJect™ formulation technologies have the potential to offer distinct advantages ove conventional product formulations, including eliminating the need for reconstitution, enabling long-term, room-temperature stability, significantly reducing injection volume, and eliminating the requirement for intravenous (IV) infusion. With Xeris' technology, new product formulations are designed to be easier to use by patients, caregivers, and health practitioners and help reduce costs for payers and the healthcare system.

Xeris is headquartered in Chicago, IL. For more information, visit www.xerispharma.com, or follow us on Twitter, LinkedIn or Instagram.

Forward-Looking Statements

Any statements in this press release about future expectations, plans and prospects for Xeris Pharmaceuticals, Inc., including statements regarding the therapeutic potential of its product candidates, the timing of clinical trials and results, and other statements containing the words "plans", "expects", "anticipates", "will," "would," "continue," and similar expressions constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including, without limitation, the regulatory approval of its product candidates, its ability to market and sell its products, if approved, the impact of Covid-19 on its business operations and other factors discussed in the "Risk Factors" section of the most recently filed Annual Report on Form 10-K filed with the Securities and Exchange Commission, as well as discussions of potential risks, uncertainties, and other important factors in Xeris' subsequent filings with the Securities and Exchange Commission. Any forward-looking statements contained in this press release speak only as of the date hereof, and Xeris expressly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

The Company intends to use the investor relations portion of its website as a means of disclosing material non-public information and for complying with disclosure obligations under Regulation FD.

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