Eiger BioPharmaceuticals Announces FDA Approval of Zokinvy™ (lonafarnib): The First Treatment for Hutchinson-Gilford Progeria Syndrome and Processing-Deficient Progeroid Laminopathies

- Zokinvy increases survival by 2.5 years in children and young adults with Progeria

- Rare Pediatric Disease Priority Review Voucher issued to Eiger from FDA

- Eiger to host an investor call, November 23, at 8:30 AM ET / 5:30 AM PT

PALO ALTO, Calif., Nov. 20, 2020 /PRNewswire/ -- Eiger BioPharmaceuticals, Inc. (Nasdaq:EIGR), focused on the development and commercialization of targeted therapies for serious rare and ultra-rare diseases, today announced that the U.S. Food and Drug Administration (FDA) has approved Zokinvy™ (lonafarnib) for the treatment of Hutchinson-Gilford Progeria Syndrome (HGPS or Progeria) and processing-deficient Progeroid Laminopathies (PL).

Progeria and Progeroid Laminopathies are separate and distinct ultra-rare, genetic, premature aging diseases that accelerate mortality in young patients. Disease manifestations include growth failure, loss of body fat and hair, aged-looking skin, stiffness of joints, hip dislocation, generalized atherosclerosis, cardiovascular disease and stroke. Untreated children with Progeria die of heart disease at an average age of 14.5 years. There are 20 children and young adults with Progeria and PL identified and followed in the U.S.

Zokinvy is a disease-modifying agent that has demonstrated a statistically significant survival benefit in children and young adults with Progeria. In patients with Progeria, Zokinvy reduced the incidence of mortality by 60% (p=0.0064) and increased average survival time by 2.5 years. The most commonly reported adverse reactions were gastrointestinal (vomiting, diarrhea, nausea), and most were mild or moderate (Grade 1 or 2) in severity. Many Progeria patients have received continuous Zokinvy therapy for more than 10 years.

The increase in survival observed with Zokinvy was derived from two open-label clinical trials (N=62) conducted at Boston Children's Hospital. The survival analysis compared Zokinvy-treated versus Zokinvy-naïve subjects with Progeria born in or after 1991, by age, gender, and geographic location. Zokinvy-naïve patients originated from a separate natural history study (n=81) conducted by The Progeria Research Foundation.

With this approval, the FDA issued a Rare Pediatric Disease Priority Review Voucher (PRV) to Eiger. The Rare Pediatric Disease Priority Review Voucher program is designed to encourage development of new drugs and biologics for the prevention or treatment of rare pediatric diseases. Eiger plans to sell the PRV and under the terms of the Collaboration and Supply Agreement with the Progeria Research Foundation (PRF) will share the proceeds equally with PRF.

"The FDA approval of Zokinvy is the result of a pioneering partnership between Eiger BioPharmaceuticals and PRF to bring the first approved therapy to children, young adults and families living with this devastating disease," said David Cory, President and CEO of Eiger. "We are very proud that the first drug approval at Eiger confers a survival benefit to patients with one of the most ultra-rare, and ultimately fatal, pediatric diseases. We are extremely grateful to all the children, young adults and their families who have made this possible through participation in the Zokinvy clinical trials."

"The approval of this breakthrough therapy is a critical milestone for the Progeria community and also for Eiger," said Thomas Dietz, PhD, Chairman of the Board at Eiger. "The Eiger Board congratulates and commends the management team for their incredible dedication leading the company through its first NDA filing and approval, a major accomplishment for Eiger."

PRF Medical Director, Leslie Gordon, MD, PhD, added, "Shortly after our son, Sam, was diagnosed with Progeria, my family and I founded The Progeria Research Foundation to find the cause, treatments, and cure for all children with this fatal disease. This first approved medication is a truly incredible milestone for the Progeria community as we forge ahead toward finding the cure. We are thrilled to have Eiger as a partner in bringing Zokinvy to the approval finish line, and for their commitment to ensuring patient access to Zokinvy moving forward."

In support of the patient and healthcare provider community, Eiger is launching our dedicated service center, Eiger OneCare™. This specialized team will offer personalized support, financial assistance, and access to Zokinvy, all designed for Progeria and processing-deficient Progeroid Laminopathy patients. Eiger OneCare™ will be available Monday through Friday from 9 AM to 5 PM Eastern Time at 1-833-MYEIGER (1-833-693-4437).

Investor Call

Eiger will host a conference call November 23 at 8:30 AM ET / 5:30 AM PT to discuss the Zokinvy approval. The live and replayed webcast of the call will be available through the company's website at www.eigerbio.com. To participate in the live call by phone, dial (844) 743-2495 (U.S.) or (661) 378-9529 (international) and enter the passcode 5685423. The replay of the call will be available for one year.

For full prescribing information, visit www.zokinvy.com.

About Zokinvy (lonafarnib)

Zokinvy blocks the accumulation of defective, farnesylated proteins which form tight associations with the nuclear envelope, leading to cellular instability and the process of premature aging in children and young adults with Progeria and processing-deficient Progeroid Laminopathies.

Eiger licensed exclusive worldwide rights to lonafarnib from Merck, known as MSD outside of the United States and Canada. Merck will not receive any milestone payments for the development of lonafarnib for the treatment of Progeria, and has waived royalty obligations from Eiger for a specified quantity of lonafarnib.

About Progeria and Progeroid Laminopathies

Progeria, also known as Hutchinson–Gilford Progeria Syndrome (HGPS), and Progeroid Laminopathies are separate and distinct ultra-rare, fatal, genetic premature aging diseases that accelerate mortality in young patients.

Progeria is caused by a point mutation in the LMNA gene, yielding the farnesylated aberrant protein, progerin. Progeroid Laminopathies are genetic conditions of accelerated aging caused by a constellation of mutations in the LMNA and/or Zmpste24 genes yielding farnesylated proteins that are distinct from progerin. While non–progerin producing, these genetic mutations result in disease manifestations with phenotypes that have overlap with, but are distinct from, Progeria.

Without Zokinvy therapy, children with Progeria die of the same heart disease that affects millions of normally aging adults (arteriosclerosis), but at an average age of 14.5 years. Disease manifestations include severe failure to thrive, scleroderma–like skin, global lipodystrophy, alopecia, joint contractures, skeletal dysplasia, global accelerated atherosclerosis with cardiovascular decline, and debilitating strokes. It is estimated that there are 400 children worldwide with Progeria and 200 children with Progeroid Laminopathies. Of these patients, approximately 180 children and young adults have been identified, including 20 in the U.S. and 23 in Europe.

INDICATION

ZOKINVY is indicated in adult and pediatric patients 12 months of age and older with a body surface area (BSA) of 0.39 m^2 and above:

- To reduce the risk of mortality in Hutchinson-Gilford Progeria Syndrome (HGPS)
- For the treatment of processing-deficient Progeroid Laminopathies with either:
    - Heterozygous LMNA mutation with progerin-like protein accumulation
    - Homozygous or compound heterozygous ZMPSTE24 mutations

Limitations of Use

ZOKINVY is not indicated for use in patients with non-HGPS Progeroid Syndromes or with Progeroid Laminopathies known to be processing-proficient. Based upon its mechanism of action, ZOKINVY would not be expected to be effective in these populations.

Contraindications

- Strong or moderate CYP3A inhibitors or inducers
- Midazolam
- Lovastatin, simvastatin, and atorvastatin

IMPORTANT SAFETY INFORMATION

- The most common adverse reactions are vomiting (90%), diarrhea (81%), infection (78%), nausea (56%), decreased appetite (53%), fatigue (51%), upper respiratory tract infection (51%), abdominal pain (48%), musculoskeletal pain (48%), electrolyte abnormalities (43%), headache (37%), decreased weight (37%), increased aspartate aminotransferase (35%), myelosuppression (35%), cough (33%), decreased blood bicarbonate (33%), hypertension (29%), and increased alanine

aminotransferase (27%).

Gastrointestinal Adverse Reactions

- Gastrointestinal adverse reactions were the most frequently reported adverse reactions. Of the 57 patients (90%) that experienced vomiting, 30 (53%) patients had mild vomiting, 26 (46%) patients had moderate vomiting, and 1 (2%) patient had severe vomiting.
- Of the 35 patients (56%) that experienced nausea, 34 (97%) patients had mild nausea and 1 (3%) patient had moderate nausea.
- Of the 51 patients (81%) that experienced diarrhea, the majority of patients (92%) experienced mild or moderate diarrhea; 38 (75%) patients reported mild diarrhea and 9 (18%) patients reported moderate diarrhea. Four (8%) patients reported severe diarrhea.
- Loss of fluids and dehydration can be severe, leading to hospitalization. As a result, patients should receive therapy for diarrhea at the earliest signs in order to avoid possible severe complications.

Alanine Aminotransferase and Aspartate Aminotransferase Elevations

- Increased alanine aminotransferase was commonly reported (17 [27%] patients). Of the 17 patients with increased alanine aminotransferase, 14 (82%) patients had mild increases, 1 (6%) patient had moderate increases, and 2 (12%) patients had severe increases.
- Increased aspartate aminotransferase was also commonly reported (22 [35%] patients). Of the 22 patients with increased aspartate aminotransferase, 21 (95%) patients had mild increases and 1 (5%) patient had a severe increase.

Hypertension

- Increases in blood pressure have been documented in patients treated with ZOKINVY. At baseline 22 (35%) patients had either a systolic blood pressure or a diastolic blood pressure or both above the 95th percentile. Over the course of the trials, 18 (29%) patients had hypertension based on systolic blood pressure or diastolic blood pressure measurements above the 95th percentile on 3 or more occasions. Five (8%) patients who were normotensive at baseline had either systolic blood pressure or diastolic blood pressure above the 95th percentile at the end of treatment.

Ophthalmic Adverse Reactions

- Lonafarnib caused retinal toxicity in monkeys at 3.7 times the human dose based on plasma drug exposure, but not at 2.1 times the human dose.

Laboratory Abnormalities

Some patients treated with ZOKINVY developed laboratory abnormalities. These included:

- Electrolyte abnormalities (43%), such as hyperkalemia, hypokalemia, hyponatremia, or hypercalcemia
- Myelosuppression (35%), such as reductions in absolute neutrophil count, white blood cell counts, lymphopenia, hemoglobin, or hematocrit
- Increased liver enzymes, such as aspartate aminotransferase (35%), or alanine aminotransferase (27%)

These laboratory abnormalities often improved while continuing ZOKINVY, but it is not possible to exclude ZOKINVY as a cause of the abnormalities. Periodically monitor electrolytes, complete blood counts, and liver enzymes, and manage abnormalities accordingly.

Nephrotoxicity

- Lonafarnib caused nephrotoxicity in rats at plasma drug exposures approximately equal to that achieved with the human dose. Monitor renal function at regular intervals during ZOKINVY therapy.

Retinal Toxicity

- Lonafarnib caused rod-dependent, low-light vision decline in monkeys at plasma drug exposures similar to that achieved with the human dose. Perform ophthalmological evaluation at regular intervals and at the onset of any new visual changes during ZOKINVY therapy.

Impaired Fertility

- Lonafarnib caused impaired fertility in female rats at 1.2 times the human dose based on plasma drug exposure.
- Lonafarnib caused impaired fertility and testicular toxicity in male rats at 1.5 times the human dose based on plasma drug

exposure, and toxicity in the male reproductive tract in monkeys at doses lower than the human dose based on plasma drug exposure.

About The Progeria Research Foundation

The Progeria Research Foundation (PRF) was established in 1999 by the family of Sam Berns, a child with Progeria. Within four years of its founding, the PRF Genetics Consortium, in collaboration with Francis Collins, MD, PhD, discovered the Progeria gene. PRF has funded and co-coordinated all Zokinvy-associated clinical trials for Progeria and Progeroid Laminopathies, conducted at Boston Children's Hospital, and supports scientists who conduct Progeria research worldwide. PRF is the only non-profit organization solely dedicated to finding treatments and the cure for Progeria and its age-related conditions, including heart disease. PRF's International Patient Registry includes over 300 children with Progeria in more than 65 countries. For more information, please visit www.progeriaresearch.org.

About Eiger

Eiger is a commercial-stage biopharmaceutical company focused on the development and commercialization of first-in-class, well-characterized drugs for serious rare and ultra-rare diseases for patients with high unmet medical needs.

Zokinvy for the treatment of Hutchinson-Gilford Progeria Syndrome (HGPS or Progeria) and processing-deficient Progeroid Laminopathies is the Company's first FDA approval. A Marketing Authorization Application (MAA) has been accepted and is under review by the European Medicines Agency (EMA). Outside the U.S., Eiger's established global Managed Access Program, expected to span greater than 40 countries, ensures all children and young adults with Progeria and Progeroid Laminopathies have access to treatment.

Eiger's lead clinical programs target Hepatitis Delta Virus (HDV) infection, the most serious form of human viral hepatitis. Eiger is developing two complementary treatments for HDV. Lonafarnib is a first-in-class, oral prenylation inhibitor in a global Phase 3 trial. Peginterferon lambda is a first-in-class, well-tolerated type III interferon entering Phase 3.

For additional information about Eiger and its clinical programs, please visit www.eigerbio.com.

About Rare Pediatric Disease Priority Review Voucher (PRV) Program

Under the FDA's Rare Pediatric Disease Priority Review Voucher program, the sponsor of a rare pediatric disease drug product receiving a priority review voucher may transfer (including by sale) the voucher to another sponsor. The voucher may be further transferred any number of times before the voucher is used, as long as the sponsor making the transfer has not yet submitted the application. Under the terms of Eiger's Collaboration and Supply Agreement with The Progeria Research Foundation (PRF), Eiger and PRF would equally share any proceeds from any potential sale of the voucher.

Note Regarding Forward-Looking Statements

This press release contains "forward-looking" statements that involve substantial risks and uncertainties. All statements other than statements of historical facts, including statements regarding our future financial condition, timing for and outcomes of clinical results, business strategy and plans and objectives for future operations, are forward-looking statements. These forward-looking statements include terminology such as "believe," "will," "may," "estimate," "continue," "anticipate," "contemplate," "intend," "target," "project," "should," "plan," "expect," "predict," "could," "potentially" or the negative of these terms. Forward-looking statements are our current statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our anticipating significant milestones in 2020 and 2021, the timing of our ongoing and planned clinical development, including our ability to support the launch of a new product and ship to specialty pharmacies; our development programs for Zokinvy generally; and the potential approval of Zokinvy in jurisdictions outside of the U.S., including the EU; the risks related to the commercialization of Zokinvy, our ability to manufacture sufficient quantities of Zokinvy, and the commercial launch of Zokinvy in the U.S., the market potential for Zokinvy as a treatment for Progeria and PL; our progression and enrollment of our Phase 3 D-LIVR study in HDV; our ability to maintain supply of our commercial and clinical trial materials; our plans to advance Lambda in HDV in the U.S. and EU; our ability to transition into a commercial stage biopharmaceutical company; our ability to finance the continued advancement of our development pipeline products; and the potential for success of any of our product candidates. These statements concern product candidates that have not yet been approved for marketing by the U.S. Food and Drug Administration (FDA). No representation is made as to their safety or effectiveness for the purposes for which they are being investigated. Various important factors could cause actual results or events to differ materially from the forward-looking statements that Eiger makes, including additional applicable risks and uncertainties described in the "Risk Factors" sections in the Quarterly Report on Form 10-Q for the quarter ended September 30, 2020 and Eiger's subsequent filings with the SEC. The forward-looking

statements contained in this press release are based on information currently available to Eiger and speak only as of the date on which they are made. Eiger does not undertake and specifically disclaims any obligation to update any forward-looking statements, whether as a result of any new information, future events, changed circumstances or otherwise.

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