Prime Medicine Announces FDA Clearance of Investigational New Drug (IND) Application for PM359 for the Treatment of Chronic Granulomatous Disease (CGD)

April 29, 2024

First-Ever Open IND for Prime Editing Technology

PM359 is Prime Medicine's Ex Vivo Product Candidate Designed to Correct a Prevalent Disease-Causing Mutation of CGD

Initial Data Expected in 2025

CAMBRIDGE, Mass., April 29, 2024 (GLOBE NEWSWIRE) -- Prime Medicine, Inc. (Nasdaq: PRME), a biotechnology company committed to delivering a new class of differentiated, one-time curative genetic therapies, today announced that the U.S. Food and Drug Administration (FDA) has cleared the company's Investigational New Drug (IND) application for PM359, submitted on March 29, for the treatment of chronic granulomatous disease (CGD), enabling the Company to initiate its global Phase 1/2 clinical trial in the United States.

"We are thrilled to achieve this important milestone for our first product candidate, PM359, which represents the first-ever IND clearance for a Prime Editor product candidate and a significant advancement in the field of next-generation gene editing," said Keith Gottesdiener, M.D., President and Chief Executive Officer of Prime Medicine. "Based on data from our preclinical studies, we believe PM359 has the potential to sufficiently correct a prevalent disease-causing mutation of CGD, leading to amelioration of disease for these patients. We look forward to the planned initiation of our Phase 1/2 trial and further determining the potential therapeutic impact of PM359 in patients with this devastating disease."

The Phase 1/2 clinical trial is a multinational, first-in-human trial designed to assess the safety, biological activity and preliminary efficacy of PM359 in adult and pediatric study participants. Initial study participants will be adults with stable disease. If safety and biological activity are demonstrated in this cohort, the study is designed to enroll participants with active infection or severe inflammation as well as adolescent and pediatric participants. Participants will be followed for safety, including engraftment and reconstitution of the hematopoietic system, early biological markers of restored immune function, and long-term resolution and prevention of infectious and inflammatory complications of CGD. Prime Medicine expects to report initial clinical data from the study in 2025.

About PM359
PM359, Prime Medicine's first product candidate within its hematology and immunology area of focus, targets the p47phox variant of chronic granulomatous disease (CGD), a serious, life-threatening disease that presents in childhood. PM359 comprises autologous hematopoietic stem cells (HSCs) modified ex vivo using Prime Editors that have been designed to correct a high percentage of cells containing the disease-causing mutation. PM359 has received rare pediatric drug designation and orphan drug designation from the U.S. Food and Drug Administration.

About Chronic Granulomatous Disease (CGD)
Chronic granulomatous disease (CGD) is a rare inherited hematologic disorder characterized by susceptibility to severe, difficult-to-treat infections, and inflammatory/autoimmune complications. CGD is caused by mutations in any one of the subunits comprising the NADPH oxidase complex, which is required for phagocytic cells, in particular neutrophils, to destroy many invasive microorganisms. CGD causative mutations are estimated to occur between one in 100,000 and one in 200,000 births in the United States, and most children are diagnosed within the first three years of life. Beginning in childhood, patients with CGD develop infections from a range of both typical and unusual bacteria, fungi and mycobacteria. These infections may present in various organ systems, and protracted infections can lead to long-term organ damage and failure. In addition, patients have non-infectious inflammatory disease, most commonly presenting as inflammatory bowel disease, soft tissue granulomas, and strictures of the urinary or digestive tract. Undiagnosed or untreated, the infectious manifestations of CGD are rapidly fatal, with refractory or antimicrobial resistant infection the leading cause of mortality.

About Prime Medicine
Prime Medicine is a leading biotechnology company dedicated to creating and delivering the next generation of gene editing therapies to patients. The Company is deploying its proprietary Prime Editing platform, a versatile, precise and efficient gene editing technology, to develop a new class of differentiated one-time curative genetic therapies. Designed to make only the right edit at the right position within a gene while minimizing unwanted DNA modifications, Prime Editors have the potential to repair almost all types of genetic mutations and work in many different tissues, organs and cell types. Taken together, Prime Editing's versatile gene editing capabilities could unlock opportunities across thousands of potential indications.

Prime Medicine is currently progressing a diversified portfolio of investigational therapeutic programs organized around core areas of focus: hematology and immunology, liver, lung, ocular and neuromuscular. Across each core area, Prime Medicine's initial focus is on genetic diseases with a fast, direct path to treating patients, and those with high unmet need not currently addressable using other gene editing approaches. Over time, the Company intends to maximize Prime Editing's broad and versatile therapeutic potential to expand beyond the genetic diseases in its initial pipeline, potentially including immunological diseases, cancers, infectious diseases, and targeting genetic risk factors in common diseases, which collectively impact millions of people. For more information, please visit www.primemedicine.com.

Forward Looking Statements
This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, implied and express statements about Prime Medicine's beliefs and expectations regarding: the potential of PM359 to correct the causative mutation of CGD; its expectations regarding the breadth and potential of Prime Editing technology; the anticipated maturation into a clinical-stage company by bringing PM359 into clinical development in 2024 with initial data expected in 2025; and the potential for Prime Editors

to repair genetic mutations and offer curative genetic therapies for a wide spectrum of diseases. The words “may,” “might,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “believe,” “expect,” “estimate,” “seek,” “predict,” “future,” “project,” “potential,” “continue,” “target” and similar words or expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

Any forward-looking statements in this press release are based on management’s current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this press release, including, without limitation, risks associated with: uncertainties related to Prime Medicine’s product candidates entering clinical trials; the authorization, initiation, and conduct of preclinical and IND-enabling studies and other development requirements for potential product candidates, including uncertainties related to opening INDs and obtaining regulatory approvals; risks related to the development and optimization of new technologies, the results of preclinical studies, or clinical studies not being predictive of future results in connection with future studies; the scope of protection Prime Medicine is able to establish and maintain for intellectual property rights covering its Prime Editing technology; Prime Medicine’s ability to identify and enter into future license agreements and collaborations; and general economic, industry and market conditions, including rising interest rates, inflation, and adverse developments affecting the financial services industry. These and other risks and uncertainties are described in greater detail in the section entitled “Risk Factors” in Prime Medicine’s most recent Annual Report on Form 10-K, as well as any subsequent filings with the Securities and Exchange Commission. In addition, any forward-looking statements represent Prime Medicine’s views only as of today and should not be relied upon as representing its views as of any subsequent date. Prime Medicine explicitly disclaims any obligation to update any forward-looking statements subject to any obligations under applicable law. No representations or warranties (expressed or implied) are made about the accuracy of any such forward-looking statements.

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