Rhythm Pharmaceuticals Announces FDA Acceptance of New Drug Application for Setmelanotide for the Treatment of POMC and LEPR Deficiency Obesities

May 13, 2020

– FDA grants Priority Review of application and sets PDUFA goal date of November 27, 2020 –

BOSTON, May 13, 2020 (GLOBE NEWSWIRE) -- Rhythm Pharmaceuticals, Inc. (Nasdaq: RYTM), a late-stage biopharmaceutical company aimed at developing and commercializing therapies for the treatment of rare genetic disorders of obesity, today announced that the U.S. Food and Drug Administration (FDA) has accepted the company's New Drug Application (NDA) for setmelanotide, an investigational, melanocortin-4 receptor (MC4R) agonist, for the treatment of pro-opiomelanocortin (POMC) deficiency obesity and leptin receptor (LEPR) deficiency obesity. The FDA granted Priority Review of the NDA and assigned a Prescription Drug User Fee Act (PDUFA) goal date of November 27, 2020. At this time, the FDA has indicated that it is not planning an advisory committee meeting as part of the NDA review.

"The FDA's acceptance of our NDA for Priority Review signifies a critical milestone toward our mission of addressing the insatiable hunger and early-onset, severe obesity that affects individuals living with rare genetic disorders of obesity," said Murray Stewart, M.D., Chief Medical Officer of Rhythm Pharmaceuticals. "We are grateful to the Agency for its agility and dedication during these challenging times, as that has enabled continued progress and productive dialogue despite the ongoing pandemic. We look forward to working closely together throughout the review process to bring setmelanotide, if approved, to patients."

A Priority Review designation is granted to drug candidates that may offer significant improvements in the safety or effectiveness of the treatment, prevention or diagnosis of a serious disease. Under Priority Review, the FDA aims to take action on an application within six months, compared to 10 months under standard review. The FDA previously granted Breakthrough Therapy designation to setmelanotide for the treatment of obesity associated with genetic defects upstream of the MC4R in the central melanocortin pathway, which includes POMC deficiency obesity and LEPR deficiency obesity.

About POMC and LEPR Deficiency Obesities
POMC and LEPR deficiency obesities are ultra-rare genetic disorders. Rhythm estimates there are approximately 100 to 500 patients in the U.S. with POMC deficiency obesity and approximately 500 to 2,000 patients in the U.S. with LEPR deficiency obesity. POMC deficiency obesity is a disorder caused by variants in the *POMC* or *PCSK1* genes that can often lead to severe obesity beginning early in life and insatiable hunger, in addition to endocrine abnormalities, and sometimes red hair and light skin pigmentation. LEPR deficiency obesity is a disorder caused by variants in the *LEPR* gene that can often lead to severe obesity beginning early in life and insatiable hunger, in addition to endocrine abnormalities. Most patients with POMC or LEPR deficiency obesity experience exponential weight gain in the first months of life, which continues rapidly over the course of their lives. This weight gain cannot be mitigated by diet, exercise or other lifestyle changes, or by existing therapeutic interventions.

About Setmelanotide
Setmelanotide is an investigational, melanocortin-4 receptor (MC4R) agonist. The MC4R is part of the key biological pathway that independently regulates energy expenditure and appetite. Variants in genes may impair the function of the MC4R pathway, potentially leading to insatiable hunger and early-onset, severe obesity. Rhythm is currently developing setmelanotide as a targeted therapy to restore the function of an impaired MC4R pathway and, in so doing, reduce hunger and weight in patients with rare genetic disorders of obesity. Currently, no pharmacologic therapies exist to treat these conditions. The FDA has granted Breakthrough Therapy designation to setmelanotide for the treatment of obesity associated with genetic defects upstream of the MC4R in the central melanocortin pathway, which includes POMC deficiency obesity and LEPR deficiency obesity. The European Medicines Agency (EMA) has also granted PRIority MEdicines (PRIME) designation for setmelanotide for the treatment of obesity and the control of hunger associated with deficiency disorders of the MC4R pathway. Both the FDA and EMA have granted orphan drug status to setmelanotide for POMC and LEPR deficiency obesities. Rhythm expects to complete submission of a Marketing Authorization Application (MAA) for setmelanotide to treat individuals living with POMC deficiency obesity or LEPR deficiency obesity to the EMA in the second quarter of 2020.

About Rhythm
Rhythm is a late-stage biopharmaceutical company focused on the development and commercialization of therapies for the treatment of rare genetic disorders of obesity. In August 2019, the company announced positive topline results from pivotal Phase 3 clinical trials of setmelanotide, its MC4R agonist, in people living with POMC deficiency obesity or LEPR deficiency obesity and, in March 2020, completed its first rolling NDA submission to the FDA. Rhythm is also evaluating setmelanotide for reduction in hunger and body weight in a pivotal Phase 3 trial in people living with Bardet-Biedl and Alström syndromes, with topline data from this trial expected in the fourth quarter of 2020 or early in the first quarter of 2021. Rhythm is leveraging the Rhythm Engine -- comprised of its Phase 2 basket study, TEMPO Registry, GO-ID genotyping study and Uncovering Rare Obesity program -- to improve the understanding, diagnosis and potentially the treatment of rare genetic disorders of obesity. For healthcare professionals, visit www.UNcommonObesity.com for more information. For patients and caregivers, visit www.LEADforRareObesity.com for more information. The company is based in Boston, MA.

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation statements regarding the potential, safety, efficacy, and regulatory and clinical progress of setmelanotide, including our expectations surrounding the PDUFA goal date and the timing for submission of an MAA. Statements using words such as "expect", "anticipate", "believe", "may",

“will” and similar terms are also forward-looking statements. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, the impact of our management transition, our ability to enroll patients in clinical trials, the design and outcome of clinical trials, the impact of competition, the ability to achieve or obtain necessary regulatory approvals, risks associated with data analysis and reporting, our liquidity and expenses, the impact of the COVID-19 pandemic on our business and operations, including our preclinical studies, clinical trials and commercialization prospects, and general economic conditions, and other important factors discussed under the caption “Risk Factors” in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020 and our other filings with the Securities and Exchange Commission. Except as required by law, we undertake no obligations to make any revisions to the forward-looking statements contained in this release or to update them to reflect events or circumstances occurring after the date of this release, whether as a result of new information, future developments or otherwise.

Corporate Contact:
David Connolly
Head of Investor Relations and Corporate Communications
Rhythm Pharmaceuticals, Inc.
857-264-4280
dconnolly@rhythmtx.com

Investor Contact:
Hannah Deresiewicz
Stern Investor Relations, Inc.
212-362-1200
hannah.deresiewicz@sternir.com

Media Contact:
Adam Daley
Berry & Company Public Relations
212-253-8881
adaley@berrypr.com

Source: Rhythm Pharmaceuticals, Inc.