Rocket Pharmaceuticals Announces New England Journal of Medicine Publication of Phase 1 RP-A501 Long-Term Data and Presents at Late-Breaking Scientific Sessions at 2024 American Heart Association Conference

November 18, 2024

All six evaluable Phase 1 patients with Danon disease are alive and transplant-free up to age 25 years

RP-A501 demonstrated safety and meaningful efficacy; all evaluable patients show cardiac LAMP2 expression and ≥10% reduction in LV mass index at 12 months and sustained through most recent follow up (up to five years)

First patient treated shows preliminary evidence of robust protein expression in heart on five-year biopsy

All evaluable patients had reductions in NYHA heart failure (from Class II to Class I) and improvements in KCCQ (median 27-point increase) at 24-54 months

Substantial improvements in troponin (median reduction 84%) and BNP (median reduction 57%) observed 24-54 months after treatment

Phase 1 data published in The New England Journal of Medicine

Investor webinar to be held later today at 12:00 p.m. ET

CRANBURY, N.J.--(BUSINESS WIRE)--Nov. 18, 2024-- Rocket Pharmaceuticals, Inc. (NASDAQ: RCKT), a fully integrated, late-stage biotechnology company advancing a sustainable pipeline of genetic therapies for rare disorders with high unmet need, presented long-term safety and efficacy results from the Phase 1 RP-A501 study which showed that RP-A501 was generally well tolerated and all evaluable Danon disease patients demonstrated LAMP2 protein expression at 12 months (sustained up to 60 months) and reduction of left ventricular (LV) mass index by ≥10% at 12 months (sustained up to 54 months) after treatment. These data were presented today at a Late-Breaking Scientific session at the American Heart Association (AHA) Scientific Sessions 2024, published in *The New England Journal of Medicine (NEJM)* and discussed on a company webinar today at 12:00 p.m. ET.

“Data presented today at AHA and published in *The New England Journal of Medicine* represents a critical milestone for the RP-A501 program and cardiac gene therapy in general, demonstrating for the first time that AAV conferred long-term efficacy in a cardiac indication. This program represents the most comprehensive investigational gene therapy dataset for any cardiac condition,” said Gaurav Shah, M.D., Chief Executive Officer of Rocket Pharma. “As is true for many other recent internal and peer company programs, when gene therapy works, it is life changing. RP-A501 is being developed as a potential one-time gene therapy and the results of the long-term Phase 1 study show the promise of gene therapy across cardiac diseases, including PKP2-ACM, BAG3-DCM and others.”

The safety and preliminary efficacy of RP-A501 was evaluated in a single-arm, open-label, multi-center Phase 1 study in male patients with Danon disease. Five patients [pediatric (n=2) and adult/adolescent (n=3)] were treated with the low dose (6.7×10^{13} GC/kg), and 2 adult/adolescent patients were treated with the high dose (1.1×10^{14} GC/kg). Data from the Phase 1 study (cut-off April 19, 2024) showed that RP-A501 in conjunction with a transient immunomodulatory regimen was generally well tolerated. Most adverse events (AEs) were mild or moderate in severity, assessed as not related to RP-A501, and non-serious. All RP-A501 or immunomodulatory regimen-related AEs were manageable or reversible. One patient had worsening heart failure at baseline (LVEF <40%) attributed to Danon disease and required heart transplantation for cardiomyopathy progression five months after receiving RP-A501.

Evidence of sustained clinically meaningful improvement was observed in pediatric patients followed up to 24 months and adult/adolescent patients followed up to 60 months. All evaluable patients in the Phase 1 trial demonstrated:

- Cardiac LAMP2 protein expression at 12 months and thereafter;
- Reduction or stabilization of LV mass index – the median reduction from baseline to most recent visit of 24% (for the ongoing pivotal Phase 2 trial, a 10% reduction in LV mass index and positive protein expression of Grade 1 or more are co-primary endpoints);

- Preservation of normal LV ejection fraction (LVEF);
- Reduction or stabilization of cardiac biomarkers (median cTnI and NTproBNP reductions of 84% and 57%, respectively);
- Improvement in New York Heart Association class from Class II at baseline to Class I at most recent follow-up visit; NYHA Class I reflects the absence of clinical signs of heart failure;
- Improvements in Kansas City Cardiomyopathy Questionnaire quality-of-life (median improvement of 27 points) scores that persisted up to 54 months of follow-up; and
- Preliminary long-term follow-up assessments for Patient 1001 were positive for immunohistochemical staining and appear to show Grade 3 expression in the heart at the five-year timepoint. These are preliminary results with a formal update to be presented at an upcoming medical conference in 2025.

"The long-term safety and efficacy results in the Phase 1 study are very encouraging for patients with Danon disease. In this study we found consistent, robust improvements and/or normalization across multiple quantifiable parameters that cardiologists use in clinical practice for assessing risk and making management decisions," said Barry H. Greenberg, MD, FHFSA, Distinguished Professor of Medicine at University of California San Diego School of Medicine and Director of the Advanced Heart Failure Treatment Program at UC San Diego Health, primary investigator of the RP-A501 Phase 1 trial and primary author of the manuscript. "Currently, there are no other therapies that have been shown to demonstrate improvement of Danon disease-related cardiomyopathy, and while heart transplantation can prolong life, it is not curative and is associated with significant one-year mortality and complications. Data from this study shows promise for the Danon disease community."

Investor Webcast Information
Company management will host a 30-minute call via webcast today, November 18, 2024, at 12:00 p.m. ET. To access the webcast, please register online at:
https://www.webcaster4.com/Webcast/Page/3046/51498. The webcast is available under "Events" in the Investors section of the Company's website at: https://ir.rocketpharma.com/. The webcast replay will be available on the Rocket website upon completion of the event.

About RP-A501
RP-A501 is Rocket's investigational gene therapy product for the treatment of Danon disease and the first gene therapy for a cardiovascular condition to demonstrate safety and efficacy in clinical studies. Danon disease is caused by mutations in the *LAMP2* gene.

RP-A501 consists of a recombinant adeno-associated virus serotype 9 (AAV9) capsid containing a full-length, wild-type version of the human *LAMP2B* transgene (AAV9.LAMP2B) which, when inserted into cardiac cells (cardiomyocytes) harboring mutations in the endogenous *LAMP2* gene, has the potential to substantially restore cardiac function by addressing the root cause of Danon disease. RP-A501 is a single dose treatment administered as an intravenous infusion. In preclinical and clinical studies, AAV9.LAMP2B has been generally well tolerated and shown to target cardiomyocytes and deliver the functional *LAMP2B* gene to heart tissue, which ultimately leads to improvement in cardiac structure and overall clinical function in patients.

About Danon Disease
Danon disease is a rare X-linked inherited disorder caused by mutations in the gene encoding lysosome-associated membrane protein 2 (LAMP-2), an important mediator of autophagy. This results in accumulation of autophagosomes and glycogen, particularly in cardiac muscle and other tissues, which ultimately leads to heart failure, and for male patients, frequent death during adolescence or early adulthood. It is estimated to have a prevalence of 15,000 to 30,000 patients in the U.S. and Europe.

The only available treatment option for Danon disease is cardiac transplantation, which is associated with substantial complications and is not considered curative, representing the high unmet medical need for patients with Danon disease.

About Rocket Pharmaceuticals, Inc.
Rocket Pharmaceuticals, Inc. (NASDAQ: RCKT) is a fully integrated, late-stage biotechnology company advancing a sustainable pipeline of investigational genetic therapies designed to correct the root cause of complex and rare disorders. Rocket's innovative multi-platform approach allows us to design the optimal gene therapy for each indication, creating potentially transformative options that enable people living with devastating rare diseases to experience long and full lives.

Rocket's lentiviral (LV) vector-based hematology portfolio consists of late-stage programs for Fanconi Anemia (FA), a difficult-to-treat genetic disease that leads to bone marrow failure (BMF) and potentially cancer, Leukocyte Adhesion Deficiency-I (LAD-I), a severe pediatric genetic disorder that causes recurrent and life-threatening infections which are frequently fatal, and Pyruvate Kinase Deficiency (PKD), a monogenic red blood cell disorder resulting in increased red cell destruction and mild to life-threatening anemia.

Rocket's adeno-associated viral (AAV) vector-based cardiovascular portfolio includes a late-stage program for Danon disease, a devastating heart failure condition resulting in thickening of the heart, an early-stage program in clinical trials for PKP2-arrhythmogenic cardiomyopathy (ACM), a life-threatening heart failure disease causing ventricular arrhythmias and sudden cardiac death, and a pre-clinical program targeting BAG3-associated dilated cardiomyopathy (DCM), a heart failure condition that causes enlarged ventricles.

For more information about Rocket, please visit www.rocketpharma.com and follow us on LinkedIn, YouTube, and X.

Conflict of Interest Statement
As an investigator for the RP-A501 clinical development program, Dr. Barry H. Greenberg's institution, University of California San Diego, has received funding from Rocket Pharmaceuticals as the sponsor of this research.

Rocket Cautionary Statement Regarding Forward-Looking Statements
This press release contains forward-looking statements concerning Rocket's future expectations, plans and prospects that involve risks and uncertainties, as well as assumptions that, if they do not materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. All statements other than statements of historical facts contained in this release are forward-looking statements. You should not place reliance on these forward-looking statements, which often include words such as "could," "believe," "expect," "anticipate," "intend," "plan," "will give," "estimate," "seek," "will," "may," "suggest" or similar terms, variations of such terms or the negative of those terms. These forward-looking statements include, but are not limited to, statements concerning Rocket's expectations

regarding the safety and effectiveness of product candidates that Rocket is developing to treat Fanconi Anemia (FA), Leukocyte Adhesion Deficiency-I (LAD-I), Pyruvate Kinase Deficiency (PKD), Danon Disease (DD) and other diseases, the expected timing and data readouts of Rocket's ongoing and planned clinical trials, the expected timing and outcome of Rocket's regulatory interactions and planned submissions, including the timing and outcome of the FDA's review of the additional CMC information that Rocket will provide in response to the FDA's request, the safety, effectiveness and timing of pre-clinical studies and clinical trials, Rocket's ability to establish key collaborations and vendor relationships for its product candidates, Rocket's ability to develop sales and marketing capabilities or enter into agreements with third parties to sell and market its product candidates, Rocket's ability to expand its pipeline to target additional indications that are compatible with its gene therapy technologies, Rocket's ability to transition to a commercial stage pharmaceutical company, and Rocket's expectation that its cash, cash equivalents and investments will be sufficient to funds its operations into 2026. Although Rocket believes that the expectations reflected in the forward-looking statements are reasonable, Rocket cannot guarantee such outcomes. Actual results may differ materially from those indicated by these forward-looking statements as a result of various important factors, including, without limitation, Rocket's dependence on third parties for development, manufacture, marketing, sales and distribution of product candidates, the outcome of litigation, unexpected expenditures, Rocket's competitors' activities, including decisions as to the timing of competing product launches, pricing and discounting, Rocket's ability to develop, acquire and advance product candidates into, enroll a sufficient number of patients into, and successfully complete, clinical studies, the integration of new executive team members and the effectiveness of the newly configured corporate leadership team, Rocket's ability to acquire additional businesses, form strategic alliances or create joint ventures and its ability to realize the benefit of such acquisitions, alliances or joint ventures, Rocket's ability to obtain and enforce patents to protect its product candidates, and its ability to successfully defend against unforeseen third-party infringement claims, as well as those risks more fully discussed in the section entitled "Risk Factors" in Rocket's Annual Report on Form 10-K for the year ended December 31, 2023, filed February 27, 2024 with the SEC and subsequent filings with the SEC including our Quarterly Reports on Form 10-Q. Accordingly, you should not place undue reliance on these forward-looking statements. All such statements speak only as of the date made, and Rocket undertakes no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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