

**SUPPLEMENT NO.1 TO
PROSPECTUS SUPPLEMENT DATED FEBRUARY 28, 2022
(To Prospectus dated September 10, 2021)**



Rocket Pharmaceuticals, Inc.

This Supplement No. 1 to Prospectus Supplement (this “Supplement”) supplements and amends the Prospectus Supplement dated February 28, 2022 (the “Prospectus Supplement”). This Supplement should be read in conjunction with the Prospectus Supplement and the Prospectus dated September 10, 2021 (the “Prospectus”). This Supplement is qualified by reference to the Prospectus Supplement, except to the extent that the information presented herein supersedes the information contained in the Prospectus Supplement.

On February 28, 2022, we entered into a sales agreement (the “Sales Agreement”) with Cowen and Company, LLC (“Cowen”) pursuant to which we may, from time to time, sell shares of our common stock, par value \$0.01 per share (the “Common Stock”), offered by the Prospectus Supplement and the Prospectus through Cowen, acting as agent and/or principal. In accordance with the terms of the Sales Agreement, we were initially authorized to offer and sell up to \$200,000,000 of our Common Stock from time to time in transactions that are deemed to be “at-the-market” offerings as defined in Rule 415(a) (4) under the Securities Act of 1933, as amended (the “ATM Offering”).

The purpose of this Supplement is to reduce the aggregate offering price of the shares of our Common Stock that may be sold under the Sales Agreement from \$200,000,000 to \$180,000,000 (inclusive of the amount already sold under the Sales Agreement). As of September 20, 2023, we have sold \$65,854,267 of our Common Stock under the ATM Offering, resulting in \$114,145,733 of remaining availability after giving effect to the reduction. Except as modified by this Supplement, the terms of the ATM Offering remain unchanged, and the Sales Agreement remains in full force and effect.

Investing in our Common Stock involves a high degree of risk. Refer to the section entitled “Risk Factors” beginning on page S-4 of the Prospectus Supplement, as well as in the other filings we make with the Securities and Exchange Commission from time to time, for a discussion of additional information that should be considered in connection with an investment in our Common Stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

TD Cowen

The date of this Supplement No. 1 to Prospectus Supplement is September 20, 2023.
