

PROSPECTUS SUPPLEMENT

(To Prospectus and Prospectus Supplement dated August 19, 2022)



IMMUNEERING CORPORATION

Up to \$21,503,435.70 of Class A Common Stock

This prospectus supplement (the “Prospectus Supplement”) supplements the prospectus dated August 19, 2022 and the prospectus supplement dated August 19, 2022 (together, the “ATM Prospectus”), relating to the offer and sale of shares of our Class A common stock from time to time pursuant to the terms of the Equity Distribution Agreement, dated August 10, 2022 (the “Agreement”), with Piper Sandler & Co. (“Piper”) as sales agent. During the twelve calendar months prior to, and including, the date hereof, we have sold an aggregate of 6,155,556 shares of our Class A common stock for aggregate gross proceeds of \$18.7 million through Piper under the Agreement. This Prospectus Supplement should be read in conjunction with the ATM Prospectus, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the ATM Prospectus. This Prospectus Supplement is not complete without, and may only be delivered or utilized in connection with, the ATM Prospectus, and any future amendments or supplements thereto.

On March 20, 2025, upon filing our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, we became subject to the offering limits in General Instruction I.B.6 of Form S-3. As of the date of this Prospectus Supplement, the aggregate market value of our Class A common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$64,510,307.10, which was calculated based on 30,004,794 shares of our outstanding Class A common stock held by non-affiliates and a price of \$2.15 per share, the closing price of our Class A common stock on January 23, 2025, which is the highest closing sale price of our Class A common stock on the Nasdaq Global Market within the prior 60 days. As of the date of this Prospectus Supplement, we have not sold any shares of our Class A common stock pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to, and including, the date of this Prospectus Supplement. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in public primary offerings on Form S-3 with a value exceeding one-third of our public float (as defined by General Instruction I.B.6) in any 12 calendar month period so long as our public float remains below \$75.0 million.

We are filing this Prospectus Supplement to amend the ATM Prospectus to update the maximum amount of shares that we are eligible to sell under General Instruction I.B.6. As a result of these limitations, we may currently only offer and sell shares of our Class A common stock having an aggregate offering price of up to \$21,503,435.70 pursuant to this Prospectus Supplement in accordance with the terms of the Agreement. However, in the event that our public float increases or decreases, we may sell securities in public primary offerings on Form S-3 with a value up to one-third of our public float, in each case calculated pursuant to General Instruction I.B.6 and subject to the terms of the Agreement. In the event that our public float increases above \$75.0 million, we will no longer be subject to the limits in General Instruction I.B.6 of Form S-3. If our public float increases such that we may sell additional amounts under the Agreement and the registration statement of which this Prospectus Supplement and the ATM Prospectus are a part, we will file another prospectus supplement prior to making additional sales.

Our Class A common stock trades on the Nasdaq Global Market under the symbol “IMRX.” On March 20, 2025, the last reported sale price of our Class A common stock on the Nasdaq Global Market was \$1.65 per share.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE “RISK FACTORS” ON PAGE S-6 OF THE ATM PROSPECTUS AND IN THE DOCUMENTS INCORPORATED BY REFERENCE IN THE REGISTRATION STATEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR CLASS A COMMON STOCK.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

Piper Sandler

The date of this prospectus supplement is March 20, 2025.
