

PROSPECTUS SUPPLEMENT
(To Prospectus dated April 2, 2026)



ImageneBio, Inc.

2,508,337 Shares of Common Stock

This prospectus supplement supplements the prospectus dated April 2, 2026 (the “Prospectus”), which forms a part of our registration statement on Form S-1 (No. 333-290108), as amended. This prospectus supplement is being filed to update and supplement the information in the Prospectus with certain information contained in our Current Report on Form 8-K, filed with the Securities and Exchange Commission on June 26, 2026 (the “Current Report”). Accordingly, we have attached the Current Report in relevant part to this prospectus supplement.

The Prospectus and this prospectus supplement relate to the proposed offer and resale or other disposition from time to time by the selling stockholders identified in this prospectus of 2,508,337 shares of common stock, par value \$0.001 per share, (the “Common Stock”) of ImageneBio, Inc.

Our Common Stock is listed on the Nasdaq Capital Market under the ticker symbol “IMA.” On June 26, 2026, the last reported sales price of our Common Stock was \$6.02 per share.

This prospectus supplement should be read in conjunction with the Prospectus, including any amendments or supplements to it, which is to be delivered with this prospectus supplement. This prospectus supplement is qualified by reference to the Prospectus, including any amendments or supplements thereto, except to the extent that the information provided by this prospectus supplement supersedes information contained in the Prospectus.

This prospectus supplement is not complete without, and may not be delivered or used except in conjunction with, the Prospectus, including any amendments or supplements to it.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described in the section titled “Risk Factors” beginning on page 6 of the Prospectus, and under similar headings in any amendments or supplements to the Prospectus.

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

The date of this prospectus supplement is June 29, 2026

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 OR 15(d)
of The Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): June 22, 2026

IMAGENEBIO, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-40287
(Commission
File Number)

81-1697316
(I.R.S. Employer
Identification No.)

12526 High Bluff Drive, Suite 345
San Diego, California
(Address of principal executive offices)

92130
(Zip Code)

Registrant's telephone number, including area code: (858) 345-6265

Not Applicable

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 par value	IMA	The Nasdaq Capital Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On June 22, 2026, Robert Lally, our Senior Vice President of Finance and Operations and principal accounting officer, provided notice of his resignation, effective July 22, 2026. Mr. Lally's resignation was not due to any disagreement with the Company. We plan to conduct a search for Mr. Lally's replacement.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

IMAGENE BIO, INC.

Date: June 26, 2026

By: /s/ Kristin Yarema
Kristin Yarema, Ph.D.
Chief Executive Officer