UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 3 TO

FORM S-1

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Humacyte, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)

(Primary Standard Industrial Classification Code Number) **85-1763759** (I.R.S. Employer Identification Number)

2525 East North Carolina Highway 54 Durham, NC 27713 (919) 313-9633

(Address, including zip code and telephone number, including area code, of registrant's principal executive offices)

Dale A. Sander Chief Financial Officer 2525 East North Carolina Highway 54 Durham, NC 27713 (919) 313-9633

(Name, address, including zip code and telephone number, including area code, of agent for service) With copies to:

Kerry S. Burke Brian K. Rosenzweig Covington & Burling LLP One CityCenter 850 Tenth Street, NW Washington, DC 20001 (202) 662-6000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. X

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \Box

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \square

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \Box

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See definitions of "large accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer 0 Accelerated filer 0
Non-accelerated filer X Smaller reporting company X
Emerging growth company X

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 7(a)(2)(B) of the Securities Act. \Box

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

TERMINATION OF REGISTRATION STATEMENT

Humacyte, Inc. ("the Company") filed with the Securities and Exchange Commission (the "SEC") a Registration Statement on Form S-1 (File No. 333-259624) on September 17, 2021, as amended by (i) Pre-Effective Amendment No. 1 to the Registration Statement on Form S-1, which was declared effective by the SEC on October 25, 2021, (ii) Post-Effective Amendment No. 1 to the Registration Statement on Form S-1, which was declared effective by the SEC on November 24, 2021, and (iii) Post-Effective Amendment No. 2 to the Registration Statement on Form S-1, which was declared effective by the SEC on March 31, 2022 (as amended, the "Original Registration Statement").

The Original Registration Statement was filed to register (1) an aggregate of up to 5,177,500 shares of the Company's common stock, \$0.0001 par value per share ("common stock"), which consists of (i) up to 177,500 shares of common stock that are issuable upon the exercise of private placement warrants (the "Private Placement Warrants") originally issued in a private placement to AHAC Sponsor LLC, Oppenheimer & Co. Inc. and Northland Securities, Inc., in connection with the initial public offering of Alpha Healthcare Acquisition Corp., and (ii) up to 5,000,000 shares of common stock that are issuable upon the exercise of public warrants (together with the Private Placement Warrants, the "Warrants"); and (2) the offer and sale from time to time by the selling stockholders named in the Original Registration Statement or their permitted transferees (the "selling stockholders") of up to 89,706,840 shares of common stock, which consists of (i) up to 17,500,000 shares of common stock issued on August 26, 2021 in a private placement pursuant to subscription agreements, dated February 17, 2021, (ii) up to 71,696,679 shares of common stock, required to be registered pursuant to that certain Investor Rights and Lock-up Agreement, dated August 26, 2021, by and among us and certain of the selling stockholders and (iii) up to 510,161 shares of common stock purchased by a selling stockholder (together with the shares of common stock underlying the Warrants, the "Registered Shares"). The Original Registration Statement was filed while the Company was ineligible to use Form S-3. As of the date hereof, the Company meets the eligibility requirements of Form S-3 and therefore may use its Registration Statement on Form S-3 (File No. 333-267222), which was filed with the SEC on September 1, 2022 and declared effective by the SEC on September 9, 2022 (the "New Registration Statement").

Pursuant to the Company's undertaking as required by Item 512(a)(3) of Regulation S-K, this Post-Effective Amendment No. 3 is being filed to terminate the effectiveness of the Original Registration Statement and to deregister, as of the effective date of this Post-Effective Amendment No. 3, all the Registered Shares that remain unsold under the Original Registration Statement as of the date thereof. The Registered Shares currently are registered under the New Registration Statement.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this post-effective amendment no. 3 to the registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on September 12, 2022.

HUMACYTE, INC.

By: /s/ Dale A. Sander

Name: Dale A. Sander

Chief Financial Officer, Chief Corporate Development Officer and

Treasurer

Note: No other person is required to sign this post-effective amendment no. 3 to the registration statement in reliance upon Rule 478 under the Securities Act of 1933, as amended.