

Prospectus Supplement No. 2
(To Prospectus dated September 29, 2022)



SENTI BIOSCIENCES, INC.

Up to 8,727,049 Shares of Common Stock

This prospectus supplement no. 2 (this “Prospectus Supplement”) amends and supplements the prospectus dated September 29, 2022 (as supplemented or amended from time to time, the “Prospectus”) which forms part of our Registration Statement on Form S-1 (Registration Statement No. 333-267390). This Prospectus Supplement is being filed to update and supplement the information included or incorporated by reference in the Prospectus with the information contained in our Current Report on Form 8-K, filed with the Securities and Exchange Commission (the “SEC”) on December 12, 2022 (the “Form 8-K”). Accordingly, we have attached the Form 8-K to this Prospectus Supplement.

This Prospectus Supplement updates and supplements the information in the Prospectus and is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This Prospectus Supplement should be read in conjunction with the Prospectus, and if there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on this Prospectus Supplement.

Our common stock is listed on The Nasdaq Global Market (“Nasdaq”) under the symbol “SNTI”. On December 9, 2022, the last quoted sale price for the Senti Common Shares as reported on Nasdaq was \$2.01 per share.

We are an “emerging growth company” under applicable federal securities laws and will be subject to reduced public company reporting requirements.

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of the risks of investing in our securities in “Risk Factors” beginning on page 8 of the Prospectus.

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

The date of this Prospectus Supplement is December 12, 2022.

**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): December 11, 2022

SENTI BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-40440
(Commission
File Number)

86-2437900
(IRS Employer
Identification No.)

2 Corporate Drive, First Floor
South San Francisco, California 94080
(Address of principal executive offices including zip code)

Registrant's telephone number, including area code: (650) 382-3281

(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	Name of each exchange on which registered
Common Stock, par value \$0.0001 per share	SNTI	The Nasdaq Global 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 8.01 Other Events.

On December 11, 2022, Senti Biosciences, Inc., (the “Company”) issued a press release announcing a presentation at the American Society of Hematology (“ASH”) annual meeting in New Orleans. Copies of the press release and the presentation slide deck presented at the ASH annual meeting are filed herewith as Exhibits 99.1 and 99.2 to this Current Report on Form 8-K and incorporated by reference herein.

The Company has also updated certain corporate information in a presentation slide deck. A copy of this corporate presentation is filed herewith as Exhibit 99.3 to this Current Report on Form 8-K and incorporated by reference herein.

Cautionary Statement

This filing and the exhibits include “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act and Section 21E of the Exchange Act, and are making this statement for purposes of complying with those safe harbor provisions. These forward-looking statements reflect our current views about our plans, intentions, expectations, strategies, and prospects, which are based on the information currently available to us and on assumptions we have made. Important factors that may cause actual results to differ materially from those described in the forward-looking statements are disclosed in the respective exhibits and in the “Risk Factors” contained in the Company’s Form 10-Q filed with the Securities and Exchange Commission (the “Commission”) on November 10, 2022, and other filings we make with the Commission. All forward-looking statements are expressly qualified in their entirety by such factors. We do not undertake any duty to update any forward-looking statement except as required by law.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release, dated as of December 11, 2022
99.2	Presentation for American Society of Hematology annual meeting.
99.3	Corporate presentation.

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.

SENTI BIOSCIENCES, INC.

Date: December 12, 2022

By: /s/ Timothy Lu
Name: Timothy Lu, M.D., Ph.D.
Title: Chief Executive Officer & President