

Prospectus Supplement No. 2
(To Prospectus dated August 8, 2022)



SENTI BIOSCIENCES, INC.

35,444,908 Shares of Common Stock

This prospectus supplement no. 2 (this “Prospectus Supplement”) amends and supplements the prospectus dated August 8, 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. 333-265873). 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 August 31, 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 August 30, 2022, the last quoted sale price for the Senti Common Shares as reported on Nasdaq was \$1.92 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 11 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 August 31, 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): August 31, 2022

SENTI BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

333-262707
(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

N/A
(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 1.01. Entry into a Material Definitive Agreement.

On August 31, 2022, Senti Biosciences, Inc., a Delaware corporation (the “Company”) entered into a Common Stock Purchase Agreement (the “Purchase Agreement”) and a Registration Rights Agreement (the “Registration Rights Agreement”), each with Chardan Capital Markets LLC (“Chardan”) related to a “ChEF,” Chardan’s committed equity facility (the “Facility”). Pursuant to the Purchase Agreement, the Company has the right from time to time at its option to sell to Chardan up to the lesser of (i) \$50,000,000 in aggregate gross purchase price of newly issued shares of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”), and (ii) the Exchange Cap (as defined below), subject to certain conditions and limitations set forth in the Purchase Agreement. The Company is under no obligation to sell any securities to Chardan under the Purchase Agreement.

While there are distinct differences, the Facility is structured similarly to a traditional at-the-market equity facility, insofar as it allows the Company to raise primary equity capital on a periodic basis outside the context of a traditional underwritten follow-on offering. From and after the Commencement (as defined below), sales of the Common Stock to Chardan under the Purchase Agreement, and the timing of any sales, will be determined by the Company from time to time in its sole discretion and will depend on a variety of factors including, among other things, market conditions, the trading price of the Common Stock and determinations by the Company regarding the use of proceeds of such Common Stock. The net proceeds from any sales under the Purchase Agreement will depend on the frequency with, and prices at, which the shares of Common Stock are sold to Chardan. The Company expects to use the proceeds from any sales under the Purchase Agreement for working capital and general corporate purposes.

Upon the satisfaction of the conditions to Chardan’s purchase obligation set forth in the Purchase Agreement (the “Commencement”), including that a registration statement registering, the resale by Chardan of shares of Common Stock issued to it by the Company under the Purchase Agreement (the “Initial Resale Registration Statement”) under the Securities Act of 1933, as amended (the “Securities Act”), which the Company agreed to file with the Securities and Exchange Commission (the “SEC”) pursuant to the Registration Rights Agreement, is declared effective by the SEC and a final prospectus relating thereto is filed with the SEC, the Company will have the right, but not the obligation, from time to time at the Company’s sole discretion over the 36-month period from and after the effectiveness of the Initial Resale Registration Statement, to direct Chardan to purchase up to a specified maximum amount of shares of Common Stock as set forth in the Purchase Agreement by delivering written notice to Chardan on any trading day, so long as all shares of Common Stock subject to all prior purchases by Chardan under the Purchase Agreement have theretofore been received by Chardan electronically as set forth in the Purchase Agreement. The purchase price of the shares of Common Stock that the Company elects to sell to Chardan pursuant to the Purchase Agreement will be determined by reference to the volume weighted average price of the Common Stock (“VWAP”) during the applicable purchase date on which the Company has timely delivered written notice to Chardan directing it to purchase shares of Common Stock under the Purchase Agreement, less a fixed 3.0% discount to such VWAP.

Under the applicable rules of The Nasdaq Global Market (“Nasdaq”), in no event may the Company issue to Chardan under the Purchase Agreement more than 8,727,049 shares of Common Stock, which number of shares is equal to 19.99% of the shares of the Common Stock outstanding immediately prior to the execution of the Purchase Agreement (the “Exchange Cap”), unless the Company obtains stockholder approval to issue shares of Common Stock in excess of the Exchange Cap in accordance with applicable Nasdaq rules or such approval is not required in accordance with the applicable Nasdaq rules. Moreover, the Company may not issue or sell any shares of Common Stock to Chardan under the Purchase Agreement which, when aggregated with all other shares of Common Stock then beneficially owned by Chardan and its affiliates (as calculated pursuant to Section 13(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and Rule 13d-3 promulgated thereunder), would result in Chardan beneficially owning more than 4.99% of the outstanding shares of Common Stock.

There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement other than a prohibition on entering (with certain limited exceptions) into a specified transaction, as further described in the Purchase Agreement. At no time prior to the date of the Purchase Agreement has Chardan engaged in or effected, in any manner whatsoever, directly or indirectly for its own principal account, any (i) “short sale” (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock that remains in effect as of the date of the Purchase Agreement.

The Purchase Agreement and the Registration Rights Agreement contain customary representations, warranties, conditions and indemnification obligations of the parties. The representations, warranties and covenants contained in such agreements

were made only for purposes of such agreements and as of specific dates, were solely for the benefit of the parties to such agreements and may be subject to limitations agreed upon by the contracting parties.

The Purchase Agreement will automatically terminate on the earliest to occur of (i) the first day of the month next following the 36-month anniversary of the Effective Date of the Initial Resale Registration Statement, (ii) the date on which Chardan shall have purchased \$50,000,000 of shares of Common Stock pursuant to the Purchase Agreement, (iii) the date on which the Common Stock shall have failed to be listed or quoted on Nasdaq or another U.S. national securities exchange identified as an “eligible principal market” in the Purchase Agreement, and (iv) the commencement of certain bankruptcy proceedings or similar transactions with respect to the Company or all or substantially all of its property.

The Company has the right to terminate the Purchase Agreement at any time after Commencement, at no cost or penalty, upon ten (10) trading days’ prior written notice to Chardan. Neither the Company nor Chardan may assign or transfer its rights and obligations under the Purchase Agreement or the Registration Rights Agreement.

As consideration for Chardan’s commitment to purchase shares of Common Stock at the Company’s direction upon the terms and subject to the conditions set forth in the Purchase Agreement, upon execution of the Purchase Agreement, on August 31, 2022, the Company issued 100,000 shares of its Common Stock to Chardan.

The foregoing descriptions of the Purchase Agreement and the Registration Rights Agreement do not purport to be complete and are qualified in their entirety by reference to, and incorporate herein by reference, the full text of the Purchase Agreement and the Registration Rights Agreement, which are filed herewith as Exhibit 10.1 and Exhibit 10.2, respectively.

This Current Report on Form 8-K shall not constitute an offer to sell or a solicitation of an offer to buy any securities, nor shall there be any sale of securities in any state or jurisdiction in which such an offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

Item 3.02. Unregistered Sales of Equity Securities.

As consideration for Chardan’s commitment to purchase shares of Common Stock at the Company’s direction upon the terms and subject to the conditions set forth in the Purchase Agreement, the Company agreed to issue 100,000 shares of Common Stock (the “Commitment Shares”) to Chardan at the time of execution of the Purchase Agreement. On August 31, 2022, the Company issued the Commitment Shares to Chardan.

In the Purchase Agreement, Chardan represented to the Company, among other things, that it is an “accredited investor” (as such term is defined in Rule 501(a) of Regulation D under the Securities Act). The securities referred to in this Current Report on Form 8-K are being issued and sold by the Company to Chardan in reliance upon the exemption from the registration requirements of the Securities Act afforded by Section 4(a)(2) thereof.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
10.1	ChEF Purchase Agreement, dated as of August 31, 2022, by and between Senti Biosciences, Inc. and Chardan Capital Markets LLC.
10.2	Registration Rights Agreement dated as of August 31, 2022, by and between Senti Biosciences, Inc. and Chardan Capital Markets LLC.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

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: August 31, 2022

By: /s/ Tim Lu
Name: Tim Lu
Title: President and Chief Executive Officer