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

**FORM S-8**

**REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933**

**SENTI BIOSCIENCES, INC.**  
(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation)

**86-2437900**  
(IRS Employer  
Identification No.)

**Senti Biosciences, Inc. 2022 Equity Incentive Plan  
Senti Biosciences, Inc. Amended and Restated 2016 Stock Incentive Plan  
Senti Biosciences, Inc. 2022 Employee Stock Purchase Plan  
Senti Biosciences, Inc. 2022 Inducement Plan**  
(Full title of the plans)

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**Timothy Lu, M.D., Ph.D**  
**Chief Executive Officer**  
**Senti Biosciences, Inc.**  
**2 Corporate Drive, First Floor**  
**South San Francisco, CA 94080**  
**Telephone: (650) 382-3281**

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

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*Copies to:*

**Jocelyn M. Arel**  
**Maggie Wong**  
**Michael R. Patrone**  
**Goodwin Procter LLP**  
**620 Eighth Avenue**  
**New York, NY 10018**  
**(212) 813-8800**

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 the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

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

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## **PART I**

### **INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

The information required by Part I of Form S-8 to be contained in the Section 10(a) prospectus is omitted from this registration statement in accordance with Rule 428 under the Securities Act of 1933, as amended (the "Securities Act"). The document(s) containing the information specified in Part I will be sent or given to participants in the Senti Biosciences, Inc. 2022 Equity Incentive Plan, the Senti Biosciences, Inc. Amended and Restated 2016 Stock Incentive Plan, the Senti Biosciences, Inc. 2022 Employee Stock Purchase Plan and the Senti Biosciences, Inc. 2022 Inducement Plan (collectively, the "Plans") as specified by Rule 428(b)(1) of the Securities Act. Such documents are not being filed with the Securities and Exchange Commission (the "Commission") as part of this registration statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act. These document(s) and the documents incorporated by reference in the registration statement pursuant to Item 3 of Part II of this form, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Documents by Reference.

The following documents filed with the Commission are hereby incorporated by reference in this registration statement:

- (a) The prospectus filed by the registrant with the Commission pursuant to Rule 424(b)(3) under the Securities Act, on August 9, 2022, as supplemented on August 15, 2022 relating to the registration statement on Form S-1, as amended (File No. 333-265873), which contains the registrant's audited financial statements for the period from March 1, 2021 (inception) through December 31, 2021 for which such statements have been filed;
- (b) The registrant's current reports on Form 8-K filed with the Commission on February 15, 2022, May 10, 2022, May 24, 2022, May 25, 2022, June 7, 2022, June 9, 2022, June 15, 2022, July 19, 2022 and July 29, 2022;
- (c) The registrant's quarterly reports on Form 10-Q for the quarterly periods ended March 31, 2022 (as filed with the Commission on May 16, 2022) and June 30, 2022 (as filed with the Commission on August 15, 2022); and
- (d) The description of the registrant's common stock contained in the registrant's registration statement on Form 8-A filed by the registrant with the Commission under Section 12(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), on May 25, 2021 including any amendments or reports filed for the purpose of updating such description.

All documents that the registrant subsequently files pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act prior to the filing of a post-effective amendment to this registration statement that indicates that all of the shares of common stock offered have been sold or that deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of the filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Under no circumstances will any information filed under current items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

#### Item 4. Description of Securities.

Not applicable.

#### Item 5. Interests of Named Experts and Counsel.

Not applicable.

## **Item 6. Indemnification of Directors and Officers.**

Our second amended and restated certificate of incorporation provides that all of our directors, officers, employees and agents shall be entitled to be indemnified by us to the fullest extent permitted by Section 145 of the Delaware General Corporation Law, as may be amended from time to time (the "DGCL"). Section 145 of the DGCL concerning indemnification of officers, directors, employees and agents is set forth below.

Section 145. Indemnification of officers, directors, employees and agents; insurance.

(a) A corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that the person's conduct was unlawful.

(b) A corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

(c) To the extent that a present or former director or officer of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in subsections (a) and (b) of this section, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith.

(d) Any indemnification under subsections (a) and (b) of this section (unless ordered by a court) shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the present or former director, officer, employee or agent is proper in the circumstances because the person has met the applicable standard of conduct set forth in subsections (a)

and (b) of this section. Such determination shall be made, with respect to a person who is a director or officer at the time of such determination, (1) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, or (2) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or (3) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion, or (4) by the stockholders.

(e) Expenses (including attorneys' fees) incurred by an officer or director in defending any civil, criminal, administrative or investigative action, suit or proceeding may be paid by the corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the corporation as authorized in this section. Such expenses (including attorneys' fees) incurred by former officers and directors or other employees and agents may be so paid upon such terms and conditions, if any, as the corporation deems appropriate.

(f) The indemnification and advancement of expenses provided by, or granted pursuant to, the other subsections of this section shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office. A right to indemnification or to advancement of expenses arising under a provision of the certificate of incorporation or a bylaw shall not be eliminated or impaired by an amendment to such provision after the occurrence of the act or omission that is the subject of the civil, criminal, administrative or investigative action, suit or proceeding for which indemnification or advancement of expenses is sought, unless the provision in effect at the time of such act or omission explicitly authorizes such elimination or impairment after such action or omission has occurred.

(g) A corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under this section.

(h) For purposes of this section, references to "the corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under this section with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued.

(i) For purposes of this section, references to "other enterprises" shall include employee benefit plans; references to "fines" shall include any excise taxes assessed on a person with respect to any employee benefit plan; and references to "serving at the request of the corporation" shall include any service as a director, officer, employee or agent of the corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan

shall be deemed to have acted in a manner “not opposed to the best interests of the corporation” as referred to in this section.

(j) The indemnification and advancement of expenses provided by, or granted pursuant to, this section shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

(k) The Court of Chancery is hereby vested with exclusive jurisdiction to hear and determine all actions for advancement of expenses or indemnification brought under this section or under any by law, agreement, vote of stockholders or disinterested directors, or otherwise. The Court of Chancery may summarily determine a corporation’s obligation to advance expenses (including attorneys’ fees). Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers, and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment of expenses incurred or paid by a director, officer or controlling person in a successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, we will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to the court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

In accordance with Section 102(b)(7) of the DGCL, our second amended and restated certificate of incorporation provides that no director shall be personally liable to us or any of our stockholders for monetary damages resulting from breaches of their fiduciary duty as directors, except to the extent such limitation on or exemption from liability is not permitted under the DGCL. The effect of this provision of our second amended and restated certificate of incorporation is to eliminate our rights and those of our stockholders (through stockholders’ derivative suits on our behalf) to recover monetary damages against a director for breach of the fiduciary duty of care as a director, including breaches resulting from negligent or grossly negligent behavior, except, as restricted by Section 102(b)(7) of the DGCL. However, this provision does not limit or eliminate our rights or the rights of any stockholder to seek non-monetary relief, such as an injunction or rescission, in the event of a breach of a director’s duty of care.

If the DGCL is amended to authorize corporate action further eliminating or limiting the liability of directors, then, in accordance with our second amended and restated certificate of incorporation, the liability of our directors to us or our stockholders will be eliminated or limited to the fullest extent authorized by the DGCL, as so amended. Any repeal or amendment of provisions of our second amended and restated certificate of incorporation limiting or eliminating the liability of directors, whether by our stockholders or by changes in law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to further limit or eliminate the liability of directors on a retroactive basis.

Our second amended and restated certificate of incorporation also provides that we will, to the fullest extent authorized or permitted by applicable law, indemnify our current and former officers and directors, as well as those persons who, while directors or officers of our corporation, are or were serving as directors, officers, employees or agents of another entity, trust or other enterprise, including service with respect to an employee benefit plan, in connection with any threatened, pending or completed proceeding, whether civil, criminal, administrative or investigative, against all expense, liability and loss (including, without limitation, attorney’s fees, judgments, fines, ERISA excise taxes and penalties and amounts paid in settlement) reasonably incurred or suffered by any such person in connection with any such proceeding.

Notwithstanding the foregoing, a person eligible for indemnification pursuant to our second amended and restated certificate of incorporation will be indemnified by us in connection with a proceeding initiated by such person only if such proceeding was authorized by our board of directors, except for proceedings to enforce rights to indemnification.

The right to indemnification which is conferred by our second amended and restated certificate of incorporation is a contract right that includes the right to be paid by us the expenses incurred in defending or otherwise participating in any proceeding referenced above in advance of its final disposition, provided, however, that if the DGCL requires, an advancement of expenses incurred by our officer or director (solely in the capacity as an officer or director of our corporation) will be made only upon delivery to us of an undertaking, by or on behalf of such officer or director, to repay all amounts so advanced if it is ultimately determined that such person is not entitled to be indemnified for such expenses under our second amended and restated certificate of incorporation or otherwise.

The rights to indemnification and advancement of expenses will not be deemed exclusive of any other rights which any person covered by our second amended and restated certificate of incorporation may have or hereafter acquire under law, our second amended and restated certificate of incorporation, our amended and restated bylaws, an agreement, vote of stockholders or disinterested directors, or otherwise.

Any repeal or amendment of provisions of our second amended and restated certificate of incorporation affecting indemnification rights, whether by our stockholders or by changes in law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to provide broader indemnification rights on a retroactive basis, and will not in any way diminish or adversely affect any right or protection existing at the time of such repeal or amendment or adoption of such inconsistent provision with respect to any act or omission occurring prior to such repeal or amendment or adoption of such inconsistent provision. Our second amended and restated certificate of incorporation will also permit us, to the extent and in the manner authorized or permitted by law, to indemnify and to advance expenses to persons other than those specifically covered by our second amended and restated certificate of incorporation.

Our amended and restated bylaws include the provisions relating to advancement of expenses and indemnification rights consistent with those which are set forth in our second amended and restated certificate of incorporation. In addition, our amended and restated bylaws provide for a right of indemnity to bring a suit in the event a claim for indemnification or advancement of expenses is not paid in full by us within a specified period of time. Our amended and restated bylaws also permit us to purchase and maintain insurance, at our expense, to protect us and/or any director, officer, employee or agent of our corporation or another entity, trust or other enterprise against any expense, liability or loss, whether or not we would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Any repeal or amendment of provisions of our amended and restated bylaws affecting indemnification rights, whether by our board of directors, stockholders or by changes in applicable law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to provide broader indemnification rights on a retroactive basis, and will not in any way diminish or adversely affect any right or protection existing thereunder with respect to any act or omission occurring prior to such repeal or amendment or adoption of such inconsistent provision.

We have entered into indemnification agreements with each of our officers and directors, a form of which is filed as Exhibit 10.5 to our Registration Statement on Form S-4 that was declared effective by the SEC on May 13, 2022. These agreements require us to indemnify these individuals to the fullest extent permitted under Delaware law against liabilities that may arise by reason of their service to us, and to advance expenses incurred as a result of any proceeding against them as to which they could be



indemnified. These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

Pursuant to the Business Combination Agreement, we agreed to continue to indemnify DYNS' directors and officers and have agreed to the continuation of director and officer liability insurance covering such directors and officers.

**Item 7. Exemption from Registration Claimed.**

Not applicable.

**Item 8. Exhibits.**

**EXHIBIT INDEX**

| <b>Exhibit No.</b> | <b>Description</b>   |
|--------------------|--|
| 4.1                | <a href="#"><u>Second Amended and Restated Certificate of Incorporation of the registrant (incorporated by reference to Exhibit 3.1 to the current report on Form 8-K, filed with the Commission on June 15, 2022).</u></a>  |
| 4.2                | <a href="#"><u>Amended and Restated Bylaws of the registrant (incorporated by reference to Exhibit 3.2 to the current report on Form 8-K filed with the Commission on June 15, 2021).</u></a>  |
| 5.1*               | <a href="#"><u>Opinion of Goodwin Procter LLP.</u></a>   |
| 23.1*              | <a href="#"><u>Consent of Marcum LLP.</u></a>  |
| 23.2*              | <a href="#"><u>Consent of KPMG LLP.</u></a>  |
| 23.3*              | <a href="#"><u>Consent of Goodwin Procter LLP (included in Exhibit 5.1).</u></a>   |
| 24.1*              | <a href="#"><u>Power of Attorney (included on signature page of this registration statement).</u></a>  |
| 99.1               | <a href="#"><u>Senti Biosciences, Inc. Amended and Restated 2016 Stock Incentive Plan and forms of award agreements thereunder (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-4 (File No. 333-262707) filed with the Commission on February 14, 2022, as amended).</u></a> |
| 99.2               | <a href="#"><u>Senti Biosciences, Inc. 2022 Equity Incentive Plan and forms of award agreements thereunder (incorporated by reference to Exhibit 10.3 to the quarterly report on Form 10-Q, filed with the Commission on August 15, 2022).</u></a>   |
| 99.3               | <a href="#"><u>Senti Biosciences, Inc. 2022 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.4 to the quarterly report on Form 10-Q, filed with the Commission on August 15, 2022).</u></a>   |
| 99.4               | <a href="#"><u>Senti Biosciences, Inc. 2022 Inducement Plan and forms of award agreements thereunder (incorporated by reference to Exhibit 10.3 to the quarterly report on Form 10-Q, filed with the Commission on August 15, 2022).</u></a>   |
| 107*               | <a href="#"><u>Filing Fee Table</u></a>  |

\* Filed herewith.

## Item 9. Undertakings.

(a) The registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

*Provided, however,* that paragraphs (a)(1)(i) and (a)(1)(ii) herein do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such

indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South San Francisco, CA on the 18th day of August, 2022.

### SENTI BIOSCIENCES, INC.

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

**Calculation of Filing Fee Tables**  
**S-8**  
(Form Type)  
**Senti Biosciences, Inc.**  
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

| Security Type                 | Security Class Title   | Fee Calculation Rule        | Amount Registered <sup>(1)</sup> | Proposed Maximum Offering Price Per Unit <sup>(3)</sup> | Maximum Aggregate Offering Price | Fee Rate  | Amount of Registration Fee |
|-------------------------------|--|-----------------------------|----------------------------------|---|----------------------------------|-----------|----------------------------|
| Equity                        | Common stock, par value \$0.0001 per share, under Amended and Restated 2016 Stock Incentive Plan   | Rule 457(h)                 | 8,594,815 <sup>(2)</sup>         | \$ 9.02 <sup>(3)</sup>                                  | \$ 77,525,231.30                 | 0.0000927 | \$ 7,186.59                |
| Equity                        | Common stock, par value \$0.0001 per share, under 2022 Employee Stock Purchase Plan <sup>(4)</sup> | Rule 457(c) and Rule 457(h) | 592,584 <sup>(6)</sup>           | \$ 1.97 <sup>(4)</sup>                                  | \$ 1,167,390.48                  | 0.0000927 | \$ 108.22                  |
| Equity                        | Common stock, par value \$0.0001 per share, under 2022 Equity Incentive Plan <sup>(4)</sup>        | Rule 457(c) and Rule 457(h) | 2,678,278 <sup>(7)</sup>         | \$ 1.97   | \$ 5,276,207.66                  | 0.0000927 | \$ 489.11                  |
| Equity                        | Common stock, par value \$0.0001 per share, under 2022 Inducement Plan <sup>(4)</sup>              | Rule 457(h)                 | 2,000,000                        | \$ 1.97   | \$ 3,940,000.00                  | 0.0000927 | \$ 365.24                  |
| <b>Total Offering Amounts</b> |  |                             | 13,865,677                       |   | \$ 87,908,829.44                 |           | \$ 8,149.16                |
| <b>Total Fee Offsets</b>      |  |                             |                                  |   |                                  |           | \$ —                       |
| <b>Net Fees Due</b>           |  |                             |                                  |   |                                  |           | \$ 8,149.16                |

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement also covers an indeterminate number of additional shares that may be issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Represents shares of the registrant’s common stock reserved for issuance upon exercise of stock options outstanding under the Amended and Restated 2016 Stock Incentive Plan (the “2016 Plan”).
- (3) Estimated in accordance with Rule 457(h) of the Securities Act solely for purposes of calculating the registration fee and based on a weighted-average exercise price.
- (4) Estimated pursuant to Rules 457(c) and 457(h) under the Securities Act, solely for the purposes of calculating the registration fee and based on the average of the high and low prices of the registrant’s common stock as reported on the Nasdaq Global Market on August 17, 2022, which date is within five business days prior to the filing of this registration statement.
- (5) Represents 592,584 shares of the registrant’s common stock currently reserved for future issuance under the 2022 Employee Stock Purchase Plan (the “ESPP”). The ESPP contains an evergreen provision in an amount equal to the lesser of (i) one percent (1%) of the total number of shares of Common Stock outstanding on December 31 of the preceding calendar year, and (ii) 1,000,000 shares of Common Stock for the Senti Biosciences, Inc. 2022 Employee Stock Purchase Plan.

- (6) Represents the sum of (i) 2,492,735 shares of the registrant's common stock initially reserved for future issuance under the 2022 Equity Incentive Plan (the "2022 Plan") and (ii) 184,543 shares of the registrant's common stock added to the reserve under the 2022 Plan in connection with the forfeiture of stock options under the 2016 Plan subsequent to June 8, 2022. The 2022 Plan contains an evergreen provision which is the number of authorized shares as is cumulatively increased in accordance with the terms of the 2022 Plan on January 1, 2023 and on each January 1 thereafter through January 1, 2032, by 5% of the outstanding number of shares of common stock of the Company on the immediately preceding December 31 or such lesser number of shares as approved by the board of directors, based on the recommendations of the compensation committee
- (7) Represents 2,000,000 shares of the registrant's common stock, par value \$0.0001 per share reserved and made available for issuance under the 2022 Inducement Equity Plan (the "Inducement Plan"). The Inducement Plan is intended to qualify as an inducement plan and shall be reserved for persons to whom the Company may issue securities without stockholder approval as an inducement pursuant to Listing Rule 5635(c)(4) of the corporate governance rules of the Nasdaq Stock Market.

August 18, 2022

Senti Biosciences, Inc.  
2 Corporate Drive, First Floor  
South San Francisco, CA 94080

Re: Securities Being Registered under Registration Statement on Form S-8

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to an aggregate of 13,865,677 shares (the "Shares") of common stock, \$0.0001 par value per share ("Common Stock"), of Senti Biosciences, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2022 Equity Incentive Plan, Amended and Restated 2016 Stock Incentive Plan, 2022 Employee Stock Purchase Plan and 2022 Inducement Plan (collectively, the "Plans").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

For purposes of the opinion set forth below, we have assumed that no event occurs that causes the number of authorized shares of Common Stock available for issuance by the Company to be less than the number of then unissued Shares.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Plans, will be validly issued, fully paid and nonassessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Goodwin Procter LLP

Goodwin Procter LLP



INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Senti Biosciences, Inc. (formerly Dynamics Special Purpose Corp.) on Form S-8 of our report dated March 7, 2022 (which includes an explanatory paragraph as to the Company's ability to continue as a going concern), with respect to our audit of the consolidated financial statements of Dynamics Special Purpose Corp. as of December 31, 2021 and for the period from March 1, 2021 (inception) through December 31, 2021, which report appears in the Prospectus, which is part of this Registration Statement. We were dismissed as auditors on June 8, 2022 and, accordingly, we have not performed any audit or review procedures with respect to any financial statements appearing in such Prospectus for the periods after the date of our dismissal. We also consent to the reference to our Firm under the heading "Experts" in such Prospectus.

/s/ Marcum LLP

Marcum LLP  
Houston, Texas  
August 18, 2022

**Consent of Independent Registered Public Accounting Firm**

We consent to the use of our report dated April 1, 2022, with respect to the consolidated financial statements of Senti Biosciences, Inc. and its subsidiaries, incorporated herein by reference.

/s/ KPMG LLP

San Francisco, California  
August 18, 2022

**POWER OF ATTORNEY AND SIGNATURES**

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below hereby constitutes and appoints each of Timothy Lu and Deborah Knobelman as such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for such person in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement on Form S-8, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Commission granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following person in the capacities and on the date indicated below.

| <b>Signature</b>   | <b>Title</b>  | <b>Date</b>     |
|--|---|-----------------|
| <u>/s/ Timothy Lu</u><br>Timothy Lu, M.D., Ph.D.             | Chief Executive Officer, President and Director<br>(Principal Executive Officer)          | August 18, 2022 |
| <u>/s/ Deborah Knobelman</u><br>Deborah Knobelman, Ph.D.     | Chief Financial Officer<br>(Principal Financial Officer and Principal Accounting Officer) | August 18, 2022 |
| <u>/s/ Susan Berland</u><br>Susan Berland                    | Director  | August 18, 2022 |
| <u>/s/ Brenda Cooperstone</u><br>Brenda Cooperstone, M.D.    | Director  | August 18, 2022 |
| <u>/s/ Edward Mathers</u><br>Edward Mathers                  | Director  | August 18, 2022 |
| <u>/s/ James J. Collins</u><br>James J. (Jim) Collins, Ph.D. | Director  | August 18, 2022 |
| <u>/s/ Omid Farokhzad</u><br>Omid Farokhzad, M.D.            | Director  | August 18, 2022 |
| <u>/s/ David Epstein</u><br>David Epstein                    | Director  | August 18, 2022 |