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 2, 2024

Senti Biosciences, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-40440**	**86-2437900**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(I.R.S. Employer Identification Number)

2 Corporate Drive, First Floor
South San Francisco, CA 94080
(Address of Principal Executive Offices) (Zip Code)

(650) 239-2030
(Registrant's telephone number, including area code)

(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, par value $0.0001 per share	SNTI	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 (17 CFR §230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2). 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 7.01. Regulation FD Disclosure.

On December 2, 2024, Senti Biosciences, Inc. (the "Company") issued a press release announcing initial clinical data from a Phase 1 clinical trial of SENTI-202, a potential first-in-class Logic Gated off-the-shelf chimeric antigen receptor natural killer investigational cell therapy, for the treatment of relapsed/refractory hematologic malignancies including acute myeloid leukemia ("AML"). SENTI-202 is designed to selectively target and eliminate CD33 and/or FLT3- expressing hematologic malignancies, including AML, while sparing healthy bone marrow cells. A copy of the press release is attached hereto as Exhibit 99.1.

The information in this Item 7.01 of Form 8-K, including the accompanying Exhibit 99.1, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of such section, nor shall such information be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, regardless of the general incorporation language of such filing, except as shall be expressly set forth by specific reference in such filing.

Cautionary Note Regarding Forward Looking Statements

This Current Report on Form 8-K and other related materials may contain a number of "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including statements regarding the Company's expectation about any or all of the following: timing of its clinical trials for SENTI-202; the timing of availability of data from the ongoing Phase 1 clinical trial of SENTI-202; as well as the ability of any product candidate to perform in humans in a manner consistent with nonclinical, preclinical or previous clinical study data. Forward-looking statements can be identified by terms such as "will," "intent," "expect," "plan," "potential," "would" or similar expressions and the negative of those terms. The Company has based these forward-looking statements largely on its current expectations and projections about future events and financial trends that it believes may affect its business, financial condition and results of operations. Although the Company believes that such statements are based on reasonable assumptions, forward-looking statements are neither promises nor guarantees and they are necessarily subject to a high degree of uncertainty and risk. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond the Company's control, you should not rely on these forward-looking statements as predictions of future events. These risks and uncertainties include, among others, those risk and uncertainties described under the heading "Risk Factors" in the Company's Quarterly Report on Form 10-Q filed with the U.S. Securities and Exchange Commission on November 14, 2024, and in any other filings made by the Company with the U.S. Securities and Exchange Commission, which are available at www.sec.gov. Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date they are made. The Company disclaims any obligation or undertaking to update or revise any forward-looking statements contained in this Current Report on Form 8-K, other than to the extent required by law.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release issued by the Company on December 2, 2024, furnished herewith.
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: December 2, 2024

By: /s/ Timothy Lu
Timothy Lu, M.D., Ph.D.
Chief Executive Officer

Exhibit 99.1

Senti Bio Announces Positive Initial Clinical Data in Phase 1 Clinical Trial of SENTI-202, a Logic Gated, Selective CD33/FLT3-Targeting CAR-NK Cell Therapy for the Treatment of Relapsed/Refractory Hematologic Malignancies Including AML

– 2 of 3 patients achieved MRD negative CR in the first dose level evaluated in the trial with a generally well-tolerated preliminary safety profile –

– Dose escalation is continuing with additional response and durability data expected in 2025 –

– Conference call scheduled on December 3 at 7:30am ET –

SOUTH SAN FRANCISCO, Calif., December 2, 2024 – Senti Biosciences, Inc. (Nasdaq: SNTI) ("Senti Bio" or the "Company"), a clinical-stage biotechnology company developing next-generation cell and gene therapies using its proprietary Gene Circuit platform, today reported positive initial clinical data from a Phase 1 clinical trial of SENTI-202, a potential first-in-class Logic Gated off-the-shelf chimeric antigen receptor natural killer ("CAR-NK") investigational cell therapy, for the treatment of relapsed/refractory ("R/R") hematologic malignancies including acute myeloid leukemia ("AML"). SENTI-202 is designed to selectively target and eliminate CD33 and/or FLT3- expressing hematologic malignancies, including AML, while sparing healthy bone marrow cells.

Three AML patients have been treated at the lowest dose level (1.0 billion CAR+ NK cells per dose) and, as of the data cutoff date of September 19, 2024, two achieved complete remission ("CR"), confirmed by bone marrow biopsy, which includes blast reduction and recovery of blood cells to normal ranges. In addition, both patients were assessed as measurable residual disease ("MRD") negative after treatment, which is defined as no detectable cancer cells present in a bone marrow sample by the most sensitive locally available method. As of today, both patients continue to maintain their remission (4+ months and 3+ months, respectively). In all three patients, SENTI-202 was generally well-tolerated with an adverse event profile consistent with the use of lymphodepleting chemotherapy in patients with AML.

"R/R AML is a devastating disease that progresses rapidly with no approved therapies once it has progressed past first-line intensive or venetoclax-based treatment, or targeted agents in the subset of patients with addressable mutations," said Kanya Rajangam, MD, PhD, President, Head of R&D and Chief Medical Officer of Senti Bio. "In the trial, early and deep responses at the first dose level were observed along with a generally well-tolerated preliminary safety profile, which is very encouraging. We look forward to reporting on additional response and durability data in 2025 as we continue dose finding."

Stephen A. Strickland, Jr., MD, MSCI, Director, Leukemia Research for Sarah Cannon Research Institute, added, "Across the Sarah Cannon Research Institute network, we care for thousands of leukemia patients yearly and, given the limited treatment options for patients with R/R AML, we are constantly hoping for new therapies with novel mechanisms of action. I am very encouraged by the initial findings—these early clinical results suggest that SENTI-202 may potentially address the critical limitations of existing therapies and provide hope to people living with AML."

Clinical Results Summary *(September 19, 2024)*

- As of the data cut, three patients with R/R AML were enrolled at the 1.0 billion CAR+ NK cells/dose level, administered three times, on days 0, 7, and 14 of a 28-day cycle following lymphodepletion with fludarabine/cytarabine ("Ara-C")
- The lowest dose cohort was cleared by the Safety Review Committee and dose escalation is continuing at the 1.5 billion CAR+ NK cells/dose level
- Two patients achieved CR; one after two cycles and the other after one cycle, both with absent MRD by the most sensitive methods available for the patients at the respective clinical sites. With an additional two months of follow-up since the data cut, both patients are continuing to maintain MRD negative CR status (4+ months and 3+ months, respectively). One patient had no response after one cycle of treatment and was refractory to therapy
- SENTI-202 was generally well-tolerated with no dose limiting toxicities ("DLTs") and an adverse event profile consistent with other investigational NK cell therapies and patients with underlying AML receiving lymphodepleting chemotherapy
- SENTI-202 transgene was detected in the peripheral circulation of all 3 patients and in all cycles, with a pharmacokinetic ("PK") profile generally consistent with other investigational CAR-NK therapy levels

SENTI-202 Efficacy Data

3 doses/cycle (day 0, 7, 14)	**Number of Patients**
1.0 billion CAR+ NK per dose	2/3 patients achieved CR 2/2 CRs are MRD negative*
** One assessed by Next Generation Sequencing and another by Multi-Parametric Flow Cytometry*	

SENTI-202 Safety Data

	Key Adverse Events*
Patient 1	Grade 4 hematologic toxicity (thrombocytopenia)^ Grade 1 fever^ / Grade 2 bacteremia / Grade 3 upper respiratory infection (SAE) No DLT/ AEI
Patient 2	Grade 4 hematologic toxicity (neutropenia & leukopenia)^ Grade 2 fever (reported as CRS) No DLT / SAE
Patient 3	Grade 4 hematologic toxicity (pancytopenia)^ Grade 1 fever (reported as CRS) No DLT / SAE
** Treatment emergent adverse events, regardless of relationship to SENTI-202; SAE ("Serious Adverse Event"); DLT ("Dose Limiting Toxicity"); Adverse Events of Interest ("AEI") includes Cytokine Release Syndrome ("CRS")* *^ related to lymphodepletion*	

SENTI-202 Next Steps
The Company expects to enroll a total of approximately 20 patients in the Phase 1 trial, based on the current clinical trial design. A higher dose cohort of 1.5 billion CAR+ NK cells/dose is actively enrolling. Additional safety and efficacy data, including initial durability data, are expected to follow in 2025.

Conference Call Information
Senti Bio management and Dr. Strickland will discuss the SENTI-202 results on December 3, 2024 at 7:30am ET. To access the live webcast, please register online on the Events and Presentations page of Senti Bio's website. An archived webcast and accompanying slides will be available on the Company's website approximately one hour after the event.

About the Clinical Trial
The Phase 1 clinical trial of SENTI-202 (NCT06325748) is enrolling adult patients with R/R CD33 and/or FLT3 expressing hematologic malignancies, including AML, at multiple sites in the United States and Australia. The dose finding trial is currently evaluating two dose levels, either 1.0 billion or 1.5 billion SENTI-202 cells. SENTI-202 is administered in 3 weekly doses (Days 0, 7, 14) of a 28-day treatment cycle following a lymphodepletion conditioning regimen of fludarabine and cytarabine. Patients will receive a minimum of one and maximum of three treatment cycles. Patients may continue to receive multiple cycles of treatment based on safety and efficacy data. This trial is funded in part by the California Institute for Regenerative Medicine ("CIRM").

About SENTI-202
SENTI-202 is a Logic Gated off-the-shelf CAR-NK cell therapy product candidate designed to selectively target and eliminate CD33 and/or FLT3 expressing hematologic malignancies, such as AML and myelodysplastic syndrome ("MDS"), while sparing healthy bone marrow cells. SENTI-202 has three main components. First, SENTI-202 contains an OR GATE, which is an activating CAR that recognizes CD33 and FLT3. By targeting either or both of these antigens, SENTI-202 is designed to effectively kill both leukemic blasts and leukemic stem cells, which constitute a difficult-to-eradicate reservoir of AML disease. Second, SENTI-202 contains a NOT GATE, which is an inhibitory CAR that is designed to recognize healthy cells and protect those healthy cells from being killed, thus potentially widening the therapeutic window. Third, SENTI-202 contains calibrated-release IL-15, which is designed to significantly increase cell persistence, expansion and activity of both the CAR-NK cells and host immune cells. The NK cells used to construct SENTI-202 are sourced from healthy adult donors, which have been screened based on a set of criteria that reflect manufacturability and product quality, and are then cryopreserved prior to use in manufacturing to minimize variability. Senti Bio is currently enrolling adult patients with R/R CD33 and/or FLT3 expressing heme malignancies in a Phase 1 clinical trial for SENTI-202, which can be a potential first-in-class allogeneic treatment for AML/MDS patients.

Senti Bio has published SENTI-202 preclinical data demonstrating the potential of Logic Gated CAR-NK cell therapy for the treatment of AML.

About AML
AML is a cancer of the blood and bone marrow and is the most common type of acute leukemia in adults. It is estimated there will be 20,800 new cases of AML in the United States in 2024. The five-year survival rate for these patients is approximately 30%. AML is currently treated with chemotherapy, targeted therapies, and/or allogeneic or autologous stem cell transplant. For patients with R/R AML, there are few treatment options and median overall survival is typically less than seven months.

About Senti Bio
Senti Bio is a clinical-stage biotechnology company developing a new generation of cell and gene therapies for patients living with incurable diseases. To achieve this, Senti Bio is leveraging a synthetic biology platform called Gene Circuits to create therapies with enhanced precision and control. These Gene Circuits are designed to precisely kill cancer cells, spare healthy cells, increase specificity to target cells and control the expression of drugs even after administration. The Company's wholly-owned pipeline includes off-the-shelf CAR-NK cells, outfitted with Gene Circuits, to target challenging liquid and solid tumor indications. Senti Bio has also preclinically demonstrated that its Gene Circuits can function in T cells. Additionally, Senti Bio has preclinically demonstrated the potential breadth of Gene Circuits in other cell and gene therapy modalities, diseases outside of oncology, and continues to advance these capabilities through partnerships with Roche/Spark Therapeutics and Bayer/BlueRock Therapeutics.

Forward-Looking Statements
This press release and document contain certain statements that are not historical facts and are considered forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements generally are identified by the words "believe," "could," "predict," "continue," "ongoing," "project," "expect," "anticipate," "estimate," "intend," "strategy," "future," "opportunity," "plan," "may," "should," "will," "would," "will be," "will continue," "will likely result," "forecast," "seek," "target" and similar expressions that predict or indicate future events or trends or that are not statements of historical matters. Forward-looking statements are predictions, projections, and other statements about future events that are based on current expectations of Senti Bio's management and assumptions, whether or not identified in this document, and, as a result, are subject to risks and uncertainties. Forward-looking statements in this release include, but are not limited to, expectations regarding Senti Bio's growth, strategy, progress and timing of its clinical trials for SENTI-202; the timing of availability of data from the ongoing Phase 1 clinical trial of SENTI-202; the ability of any product candidate to perform in humans in a manner consistent with nonclinical, preclinical or previous clinical study data; expectations regarding the anticipated dosing of patients and availability of data from clinical trials, and the timing thereof; the ability to initiate new clinical programs; as well as statements about the potential attributes and benefits of Senti Bio's platform technology and the progress and continuation of its collaborations with certain collaboration and strategic partners. These forward-looking statements are provided for illustrative purposes only and are not intended to serve as and must not be relied on by any investor as, a guarantee, an assurance, a prediction, or a definitive statement of fact or probability. Actual events and circumstances are difficult or impossible to predict and will differ from assumptions. Many actual events and circumstances are beyond the control of Senti Bio. Many factors could cause actual future results to differ materially from the forward-looking statements in this document, including but not limited to: (i) changes in domestic and foreign business, market, financial, political and legal conditions, (ii) changes in the competitive and highly regulated industries in which Senti Bio operates, variations in operating performance across competitors, changes in laws and regulations affecting Senti Bio's business, (iii) the ability to implement business plans, forecasts and other expectations, (iv) the risk of downturns and a changing regulatory landscape in Senti Bio's highly competitive industry, (v) risks relating to the uncertainty of any projected financial information with respect to Senti Bio, (vi) risks related to uncertainty in the timing or results of Senti Bio's clinical trial start up, clinical studies, patient enrollment, and GMP manufacturing startup activities, (vii) Senti Bio's dependence on third parties in connection with clinical trial startup, clinical studies, and GMP manufacturing activities, (viii) risks related to delays and other impacts from macroeconomic and geopolitical events, increasing rates of inflation and rising interest rates on business operations, (ix) risks related to the timing and utilization of the grant from CIRM, and (x) the success of any future research and development efforts by Senti Bio. The foregoing list of factors is not exhaustive. You should carefully consider the foregoing factors and the other risks and uncertainties described in the "Risk Factors" section of Senti Bio's most recent periodic report filed with the U.S. Securities and Exchange Commission ("SEC"), and other documents filed by Senti Bio from time to time with the SEC. These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements in this document. There may be additional risks that Senti Bio does not presently know, or that Senti Bio currently believes are immaterial that could also cause actual results to differ from those contained in the forward-looking statements in this document. Forward-looking statements speak only as of the date they are made. Senti Bio anticipates that subsequent events and developments may cause Senti Bio's assessments to change. Except as required by law, Senti Bio assumes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events, or otherwise.

Availability of Other Information About Senti Biosciences, Inc.
For more information, please visit the Senti Bio website at https://www.sentibio.com or follow Senti Bio on X (formerly Twitter) (@SentiBio) and LinkedIn (Senti Biosciences). Investors and others should note that we communicate with our investors and the public using our company website (www.sentibio.com), including, but not limited to, company disclosures, investor presentations and FAQs, Securities and Exchange Commission filings, press releases, public conference call transcripts and webcast transcripts, as well as on X and LinkedIn. The information that we post on our website or on X or LinkedIn could be deemed to be material information. As a result, we encourage investors, the media and others interested to review the information that we post there on a regular basis. The contents of our website or social media shall not be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended.

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