Senti Bio's SENTI-202, a First-in-Class Off-the-Shelf Logic Gated Selective CD33 OR FLT3 NOT EMCN CAR NK Cell Therapy, Demonstrates Positive Preliminary Clinical Results in the Treatment of Patients with Relapsed/Refractory AML

Data presented at the American Association for Cancer Research (AACR) Annual Meeting 2025

Dose Finding completed with no dose limiting toxicities and preliminary recommended Phase 2 dose (RP2D) identified

5 of 7 best overall response evaluable patients achieved ORR (3 CR, 1 CRh and 1 morphologic leukemia-free state) across all dose cohorts, including 1 CR and 1 CRh in 3 patients in preliminary RP2D cohort

4 of 4 cCR patients were measurable residual disease (MRD) negative as assessed by local standard of care

Early deep responses with SENTI-202 noted across dose levels with all cCRs ongoing as of the data cut and longest durability of 8+ months

Company to host webcast to discuss the new Phase 1 SENTI-202 data today, April 28th at 8:30 AM ET; Register Here

Announces certain preliminary first quarter 2025 financial results and provides pipeline update

SOUTH SAN FRANCISCO, Calif., April 28, 2025 (GLOBE NEWSWIRE) -- 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 additional positive preliminary data from a Phase 1 clinical trial of SENTI-202, a potential first-in-class off-the-shelf Logic Gated selective CD33 OR FLT3 NOT EMCN 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"). As previously announced, the Company will host a conference call and webcast to discuss the presented data today, April 28, 2025, at 8:30 AM ET (details below).

SENTI-202 CLINICAL DATA UPDATE

The positive preliminary SENTI-202 clinical data was presented on April 27 in a Clinical Trials Oral Minisymposium at the American Association for Cancer Research (AACR) Annual Meeting 2025 in an abstract titled, "*First-in-human, multicenter study of SENTI-202, a CD33/FLT3 selective off-the-shelf logic gated CAR NK cell therapy in hematologic malignancies including AML: Clinical data*."

Timothy Lu, MD, PhD, Co-Founder and CEO of Senti Biosciences, commented, "Senti was founded on engineering Logic Gated cell therapies with the enhanced ability to selectively kill cancer cells and protect healthy cells for cancer indications not addressable by existing drugs. Building upon these exciting results, we are continuing to prioritize development of our Logic Gating programs, including SENTI-202 and additional discovery efforts for solid tumors."

SENTI-202 Clinical Results Summary

- As presented at AACR, 9 patients with relapsed or refractory AML have been treated with various doses of SENTI-202 in the dose finding part of the study and 7 were evaluable for overall response at the data cut-off.
- The Phase 1 study evaluated two dose levels (1 or 1.5 x 10^9 CAR NK cells/ dose) and two schedules (3 or 5 doses) of SENTI-202 administered every 28 days on Days 0,7,14 or Days 0,3,7,10,14, respectively, following lymphodepletion with fludarabine/Ara-C.
- SENTI-202 was well-tolerated with no dose limiting toxicities and a maximum tolerated dose was not reached. The preliminary recommended Phase 2 dose (RP2D) was identified based on the totality of clinical data, including efficacy, as 1.5 x 10^9 CAR NK cells administered on Days 0,7,14 in 28-day Cycles following lymphodepleting chemotherapy.
- Efficacy
  - 2 of 3 patients in the preliminary RP2D cohort achieved a composite Complete Remission (cCR); 5 of the 7 best overall response evaluable patients achieved an ORR (cCR + morphologic leukemia-free state) outcome and 4 of the 7 achieved cCR (3 CR with full hematologic recovery, and 1 CRh (CR with partial hematologic recovery)).
  - 4 of 4 cCR patients were MRD- (Measurable Residual Disease Negative) as assessed by local standard of care.
  - All cCR patients continue in remission with the longest follow up being 8+ months, and 3 patients received a bone marrow transplant after treatment with SENTI-202.
- Pharmacokinetics (PK)
  - SENTI-202 was detected in all treated patients, consistent with other allogeneic CAR NK cell therapy PK profiles, namely with modest expansion in the first 14 days in the periphery followed by clearance from peripheral blood.
- Bone marrow Cytometry by Time of Flight (CyTOF) analyses
  - SENTI-202 treatment decreased AML blasts and leukemia stem cell (LSC) frequencies and maintained (or increased) healthy hematopoietic stem and progenitor cell (HSPC) frequencies in patients achieving cCR, consistent with the SENTI-202 Logic Gated gene circuit's designed mechanism of action.
- Safety
  - SENTI-202 is generally well tolerated with an adverse event profile that is consistent with other investigational NK cell therapies and patients with underlying AML receiving lymphodepleting chemotherapy. In terms of Grade 3 or higher events in >1 patient on trial, four patients each reported grade 3 or higher febrile neutropenia and decreased platelet count, and two patients each reported grade 3 anemia and abdominal pain, but these side effects were either deemed unrelated to SENTI-202 or resulting from the lymphodepleting chemotherapy in all patients except

one. No grade 5 adverse events were observed.

The Phase 1 study of SENTI-202 is continuing to enroll to confirm the preliminary RP2D followed by disease specific expansion cohorts. The trial is funded in part by a grant from the California Institute for Regenerative Medicine.

Kanya Rajangam, MD, PhD, President, Head of R&D and Chief Medical Officer of Senti Bio, summarized, “Based on our clinical, correlative and preclinical data, we believe SENTI-202 has the potential to provide a safe and effective treatment option for AML. We remain focused on the successful execution of the study and look forward to further exploring SENTI-202’s potential.”

Stephen A. Strickland, Jr., MD, MSCI, Director, Leukemia Research for Sarah Cannon Research Institute, and the lead author for the AACR abstract, added, “While preliminary, the results demonstrated by SENTI-202 to date continue to be encouraging. There remains a significant unmet medical need in AML for treatments that can overcome tumor heterogeneity and spare healthy cells. Early results are encouraging, not only for the deep durable complete remissions, but also for the excellent safety profile noted thus far. I look forward to seeing additional data and exploring the potential of SENTI-202 to provide a much-needed treatment option to people living with AML.”

ADDITIONAL DATA TO BE PRESENTED

In addition to the Oral Minisymposium, Senti will be presenting data on SENTI-202 in two additional posters during the AACR meeting.

1. Title: *First-in-human, multicenter study of SENTI-202, a CD33/FLT3 selective off-the-shelf logic gated CAR NK cell therapy in hematologic malignancies including AML: Correlative data*

   Session Type: Poster Session
   Session Title: PO.CT01.02 - First-in-Human Phase I Clinical Trials 2
   Date and Time: Tuesday, April 29, 2025 from 9:00 AM - 12:00 PM CT
   Location: Section 48
   Abstract Number: CT143 / 9

2. Title: *SENTI-202 CD33 OR FLT3 NOT EMCN logic-gated gene circuit components selectively target AML while protecting human HSC/HPCs from off-tumor toxicity in a humanized mouse model*

   Session Type: Poster Session
   Session Title: PO.IM01.17 - Novel In Vivo, In Vitro, and In Silico Models
   Date and Time: Wednesday, April 30, 2025 from 9:00 AM - 12:00 PM CT
   Location: Section 38
   Abstract Number: 7271 / 18

CONFERENCE CALL AND WEBCAST DETAILS

Senti Bio management will host a conference call and webcast for investors, analysts and other interested parties to discuss the data presented at AACR today, April 28, 2025, at 8:30 AM ET.

Interested participants may access the call by dialing (877) 524-8416 (Domestic) +1 (412) 902-1028 (International). The webcast will be accessible on the Events page under the Investors section of the Company’s website (www.sentibio.com), and will be archived for 90 days.

FIRST QUARTER PRELIMINARY FINANCIAL HIGHLIGHTS

Senti Bio also announced certain preliminary, unaudited financial results for the first quarter of 2025. These preliminary financial results are subject to change. Final unaudited financial results will be available upon the filing of the Company’s Quarterly Report on Form 10-Q with the Securities and Exchange Commission on or about May 6, 2025.

- Cash and Cash Equivalents: As of March 31, 2025, Senti Bio held cash and cash equivalents of approximately $33.8 million.
- R&D Expenses: Research and development expenses were $9.3 million and $8.8 million for the three months ended March 31, 2025 and 2024, respectively. The increase of $0.5 million was primarily due to an increase of $1.4 million in external services and supplies cost, offset by a decrease of $0.8 million in personnel-related expenses, including stock-based compensation and $0.2 million in facilities and other cost.
- G&A Expenses: General and administrative expenses were $7.1 million and $7.5 million for the three months ended March 31, 2025 and 2024, respectively. The decrease of $0.4 million was primarily due to a decrease of $0.9 million in personnel-related expenses offset by an increase of $0.5 million in external services and supplies cost.
- Net Loss: Net loss was $14.1 million, or $1.41 per basic and diluted share, for the quarter ended March 31, 2025.

ADDITIONAL PIPELINE UPDATE

SENTI-301A for HCC: As previously announced, Senti Bio has collaborated with Celest Therapeutics (Shanghai) Co. Ltd. (Celest) to evaluate SN301A in a single center Investigator Sponsored Trial in China. SN301A is a Celest product which incorporates Senti’s SENTI-301A gene circuit into Celest’s CAR-NK cells, which are made using Celest’s manufacturing platform in China, which is distinct from Senti Bio’s manufacturing process. Based on the observation of certain dose limiting toxicities in the SN301A Investigator Sponsored Trial, enrollment has been stopped. Senti is evaluating next steps with SENTI-301A/SN301A as part of ongoing pipeline prioritization.

About SENTI-202

SENTI-202 is a First-in-Class Off-the-Shelf Logic Gated Selective CD33 OR FLT3 NOT EMCN 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 (providing a “kill” signal), which is an activating CAR that recognizes CD33 and/or FLT3. By targeting either or both of these antigens, SENTI-202 is designed to effectively kill both

leukemic blasts and leukemia stem cells, which constitute a difficult-to-eradicate reservoir of AML disease. Second, SENTI-202 contains a NOT GATE (providing a “protect” signal), which is an inhibitory CAR that is designed to recognize healthy cells and protect those healthy cells from being killed, even if they were to express CD33 and/or FLT3, thus potentially widening the therapeutic window. Third, SENTI-202 contains calibrated-release IL-15 (providing an “enhance” signal), 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 manufacture SENTI-202 are sourced from selected healthy adult donors. 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 off-the-shelf 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 were 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 approximately five months.

About Senti Bio

Senti Bio is a biotechnology company developing a new generation of cell and gene therapies for patients living with incurable diseases. To achieve this, Senti Bio is leveraging its synthetic biology platform to engineer Gene Circuits into new medicines with enhanced precision and control. These Gene Circuits are designed to precisely kill cancer cells, to spare healthy cells, to increase specificity to target tissues, and/or to be controllable even after administration. The Company’s wholly-owned pipeline is comprised of cell therapies engineered with Gene Circuits to target challenging liquid and solid tumor indications. Senti’s Gene Circuits have been shown preclinically to work in both NK and T cells. Senti Bio has also preclinically demonstrated the potential breadth of Gene Circuits in other modalities and diseases outside of oncology, and continues to advance these capabilities through partnerships.

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 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. 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 www.sentibio.com or follow Senti Bio on X (@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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