

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 3, 2024

SENTI BIOSCIENCES, INC.

(Exact name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of Incorporation)

001-40440
(Commission File Number)

86-2437900
(IRS Employer Identification No.)

2 Corporate Drive, First Floor
South San Francisco, California
(Address of Principal Executive Offices)

94080
(Zip Code)

Registrant's Telephone Number, Including Area Code: 650-239-2030

(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
Common stock, \$0.0001 par value per share

Trading Symbol(s)
SNTI

Name of each exchange on which registered
The Nasdaq Capital Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 8.01. Other Events.

Senti Biosciences, Inc. (the "Company") has made available a slide presentation deck relating to initial clinical data from the Phase 1 clinical trial of SENTI-202, a copy of which is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference. The Company undertakes no obligation to update, supplement or amend the materials attached hereto as Exhibit 99.1.

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	Presentation Slide Deck
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

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 3, 2024

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



SENTI-202 Initial Clinical Data



December 2024

Disclaimer

Forward Looking Statements

This presentation contains forward-looking statements of Senti Biosciences, Inc. ("we," "us," "our") within the meaning of the Private Securities Litigation Reform Act of 1995. Statements we make in this presentation may include statements which are not historical facts and are considered forward-looking 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, which are usually identified by the use of words such as "anticipates," "believes," "estimates," "expects," "future," "objective," "opportunity," "potential," "proposed," "targets," "intends," "may," "plans," "projects," "seeks," "should," "will," and variations of such words or similar expressions. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act and Section 21E of the Securities Exchange Act and are making this statement for purposes of complying with those safe harbor provisions. These forward-looking statements, including statements regarding attributes and benefits of our technology platform and of our product candidates, including their therapeutic potential; our clinical trials, including trial design and endpoints, our ability to achieve such endpoints, our plans to transition our Phase 1 clinical trial of SNTI-202 to a pivotal study, the timing of initial clinical efficacy data and durability data from our ongoing clinical trial; our manufacturing process and its potential benefits; our current and anticipated cash runway; the potential use of proceeds; and, reflect our current views about our plans, intentions, expectations, strategies and prospects, which are based on the information currently available to us and on assumptions we have made. These forward-looking statements are provided for illustrative purposes only and are not intended to serve as, and must not be relied on as a guarantee, an assurance, a prediction or a definitive statement of fact or probability. Although we believe that our plans, intentions, expectations, strategies and prospects as reflected in or suggested by those forward-looking statements are reasonable, we can give no assurance that the plans, intentions, expectations or strategies will be attained or achieved. Many actual events and circumstances are difficult or impossible to predict, are beyond our control and will differ from assumptions. Furthermore, actual results may differ materially from those described in the forward-looking statements and will be affected by a variety of risks and factors that are beyond our control including, without limitation, the risk that results observed in studies of our product candidates, including preclinical studies and future clinical trials of any of our product candidates, will not be observed in ongoing or future studies involving these product candidates, the risk that we may cease or delay clinical development of any of our product candidates for a variety of reasons (including requirements that may be imposed by regulatory authorities on the initiation or conduct of clinical trials, the amount and type of data to be generated, or otherwise to support regulatory approval, difficulties or delays in subject enrollment and continuation in current and planned clinical trials, difficulties in manufacturing or supplying our product candidates for preclinical and clinical testing, and any adverse events or other negative results that may be observed during preclinical or clinical development), our ability to obtain, maintain and protect our intellectual property, our dependence on third parties for development and manufacture of product candidates, our ability to manage expenses and to obtain additional funding when needed to support our business activities and establish and maintain strategic business alliances and new business initiatives, the impacts of macroeconomic and geopolitical events, the hostilities in Ukraine and Gaza, increasing rates of inflation and rising interest rates on business operations and expenses, and the risks that our product candidates may not produce therapeutic benefits or may cause other unanticipated adverse effects, as well as those set forth in the section titled "Risk Factors" of Senti Bio's most recently filed periodic report, and other documents filed by Senti Bio from time to time with the SEC. Except as required by law, we assume no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

This presentation includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties as well as our own estimates of potential market opportunities. All of the market data used involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the potential market opportunities for our product candidates include several key assumptions based on our industry knowledge, industry publications, third-party research and other surveys, which may be based on a small sample size and may fail to accurately reflect market opportunities. While we believe that our internal assumptions are reasonable, and management is responsible for the accuracy of such assumptions and data, no independent source has verified such assumptions.

This presentation shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation, or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.



SENTI BIO

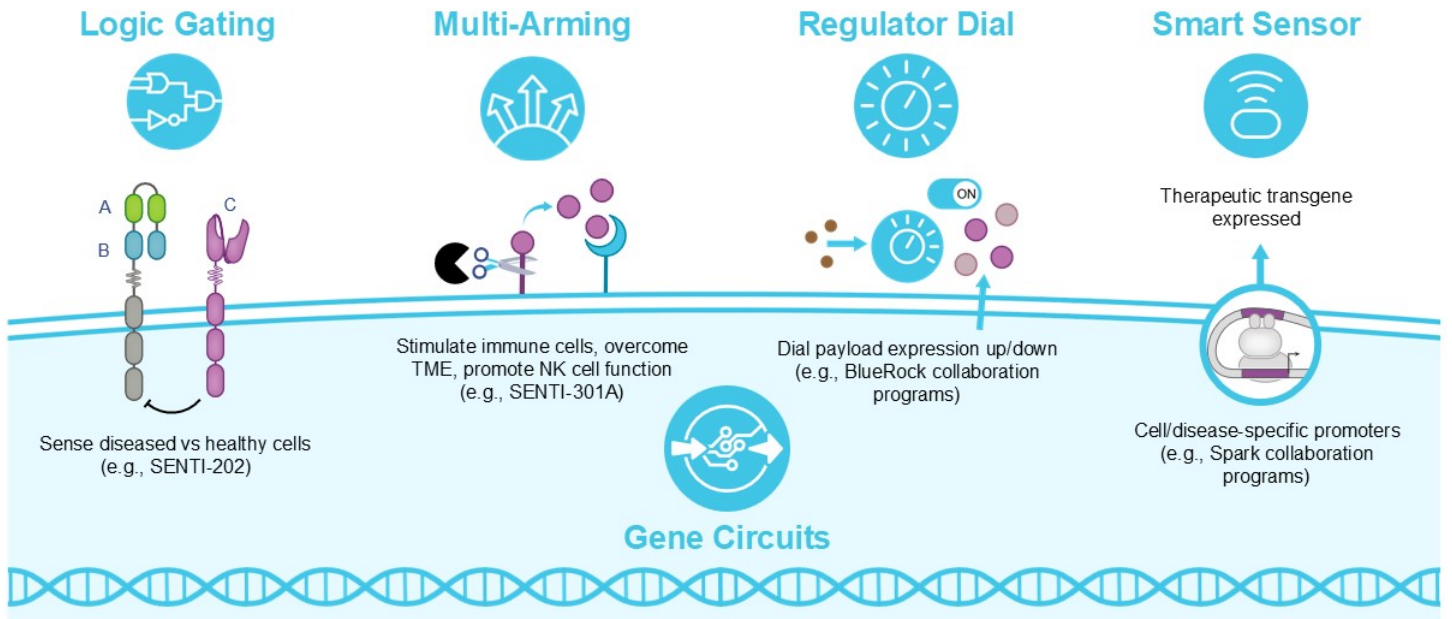
SENTI-202 Initial Clinical Data

Corporate and Clinical Results Overview

Tim Lu, MD, PhD

CEO and Co-Founder, Senti Biosciences

Senti's Gene Circuits Designed to Enhance Precision, Control, and Activity of Cell & Gene Therapies



NK: Natural Killer; TME: Tumor Microenvironment

Internal Focus on Oncology, Partnering to Support Non-Oncology Indications

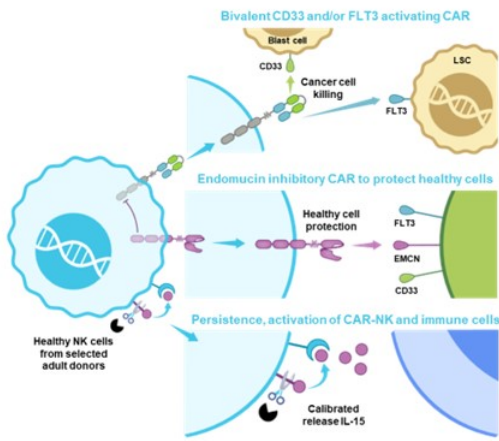
Programs	Target	Application	Preclinical	Early Stage Clinical	Late Stage Clinical	Collaborator
SENTI-202	CD33 and/or FLT3	AML, MDS and other blood cancers				
SENTI-301A¹	GPC3	HCC and other solid tumors				
Multiple Gene Therapy Programs	Undisclosed	Eye, CNS and liver diseases				
Multiple iPSC Cell Therapy Programs	Undisclosed	Regenerative medicine				

AML: Acute Myeloid Leukemia; CNS: Central Nervous System; HCC: Hepatocellular Carcinoma; MDS: Myelodysplastic Syndrome

¹ Collaboration with Celest for clinical development to treat solid tumors in China, with an option to expand to Hong Kong, Macau, and Taiwan

December 2024

SENTI-202 Is a Potentially First-In-Class Selective Off-the-Shelf Investigational NK Cell Therapy for Blood Cancers



SENTI-202 Approach

- Logic Gating to overcome AML heterogeneity via clinically validated CD33 and FLT3 targets
- Logic Gating also to spare healthy cells via EMCN target, which is selectively expressed on HSCs

2024 Accomplishments

- ✓ First patient dosed in 2Q 2024
- ✓ Initial clinical data year-end 2024
 - **2 of 3 R/R AML patients with MRD negative CR at first dose level**

SENTI-202 is designed to integrate validated mechanisms into one solution, engineered to solve key outstanding problems in AML

Completion of private placement financing will allow us to continue SENTI-202 clinical development, and obtain additional efficacy and durability data



SENTI BIO

SENTI-202 Initial Clinical Data

Unmet Need in Acute Myeloid Leukemia (AML)

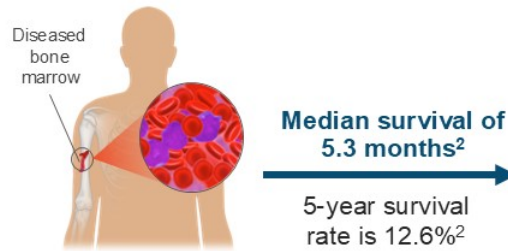
Stephen A. Strickland, MD, MSCI

Director of Leukemia Research, Sarah Cannon Research Institute

AML Is an Aggressive Leukemia with Poor Prognosis

- Rapidly progressing blood cell cancer with clonal proliferation of leukemic blasts from myeloid lineage
- Initial treatment includes intensive chemotherapy followed by HCT for younger, fit patients and venetoclax/ HMA based therapy for older, unfit patients
- Most patients will eventually relapse even with intensive therapy^{1,2}
 - At relapse, ~20-30% CR with full hematologic recovery is reported with targeted agents in patients with FLT3/IDH 1/2 mutations¹ or with salvage chemotherapy²

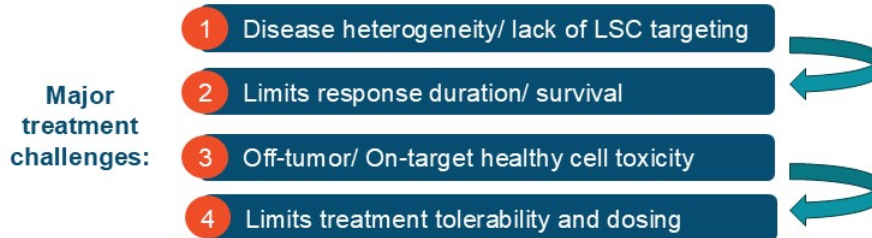
R/R AML patient outcome



AML: Acute Myeloid Leukemia; CR: Complete Remission; HCT: Hematopoietic Cell Transplantation; HMA: Hypomethylating Agents;
R/R: Relapsed/Refractory
¹ Dohner Blood 2022; ² Brandwein AJBR 2020

There are Multiple Challenges to Developing Effective AML Therapies

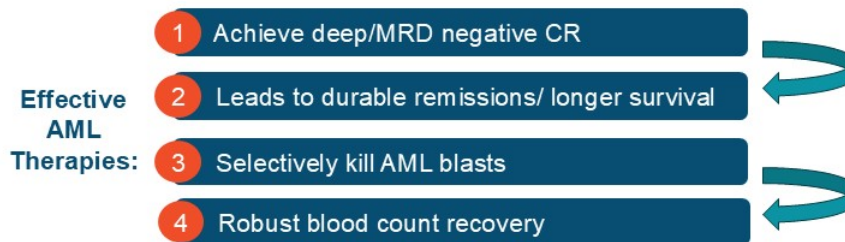
- Durability of response is limited due to:
 - Leukemic cell clonal heterogeneity which requires use of multi- targeted and combination therapies
 - Leukemia stem cells (LSCs), a small population with stem cell features such as being undifferentiated, drug resistant and with capacity to self-renew are held to be responsible for relapse initiation even with bulk AML blast clearance¹
- Treatment tolerability limitations due to:
 - Healthy hematopoietic cell toxicity from limitations with AML targets that are often present on healthy hematopoietic stem cells (HSC)¹
 - Overlapping toxicity profiles of approved AML therapies including bone marrow toxicity limits combination and sequential use of therapy



¹ Hansen Cancer Drug Resistance 2022

Achieving Deep Responses and Blood Count Recovery in AML Correlates with Longer Survival

- Detection of measurable residual disease (MRD) in patients with CR by conventional methods correlates with shorter remissions and poorer survival¹
 - Measurement of MRD is not standardized across care centers currently with common methods used including multi-parametric flow cytometry, next generation sequencing (NGS), PCR in AML with specific mutations
 - Achieving MRD negative status correlates with longer remissions and increased survival
- Achievement of CR with full count recovery correlates with better prognosis compared to CR with incomplete or no count recovery²
 - CR includes bone marrow blasts <5% along with neutrophils $\geq 1.0 \times 10^9/L$ (normal range $2.5-7.5 \times 10^9/L$) and platelets $\geq 100 \times 10^9/L$ (normal range $150-400 \times 10^9/L$)



¹ Dohner Blood 2022; ² Innes Blood 2018



SENTI BIO

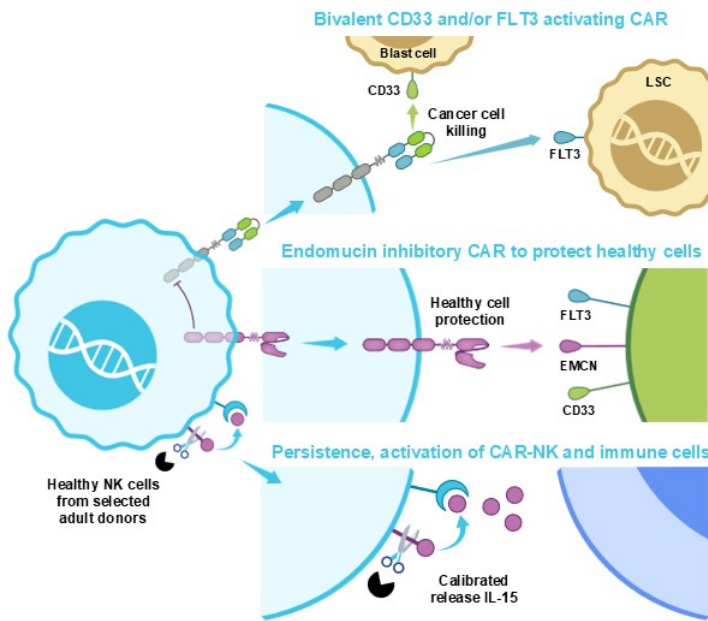
SENTI-202 Initial Clinical Data

Clinical Trial Data

Kanya Rajangam, MD, PhD

President, Head of R&D and CMO, Senti Biosciences

SENTI-202 Is a Potentially First-In-Class Selective Off-the-Shelf Investigational NK Cell Therapy for Blood Cancers



Activating CAR “kill” signal

- Bivalent CD33 and/or FLT3 CAR targets validated AML targets
- Potential for deep and durable responses in AML and other blood cancers

Inhibitory CAR “protect” signal

- Inhibition by endomucin (EMCN) protective antigen
- EMCN selectively expressed on healthy hematopoietic stem cells (HSCs) for potentially improved safety and increased therapeutic window

Calibrated release IL-15

- Cell expansion, persistence, and tumor killing

Designed to address key AML therapeutic challenges

SENTI-202 Phase 1 Trial (SENTI-202-101) Design¹

High starting dose based on NK tolerability profile designed to enable early efficacy signal detection

Patient Population

- Adult patients
- R/R CD33 and/or FLT3 expressing heme malignancies
- 2 of 3 patients at each dose level with AML
- Received 1-3² prior AML treatments including targeted agents if FLT3, IDH1/2 mutation+

Study Design

- “3+3” study design
- Dose escalation followed by disease-specific expansion cohorts for AML and MDS
- Starting dose 1×10^9 CAR+ NK cells and target dose 1.5×10^9 CAR+ NK cells
- Plans to transition from Phase 1 to pivotal study

Planned Endpoints

- Safety, DLT, identify recommended Phase 2 dose
- Efficacy, including bone marrow recovery and MRD
- Pharmacokinetics (PK), pharmacodynamics (PD), biomarkers to supplement efficacy and immunogenicity

Multi-Dose Cycle

Lymphodepletion

Flu/Ara-C

SENTI-202

2 dose levels

Efficacy

Additional cycles⁺

Day -7

-3

0

7

14

28

DLT: Dose Limiting Toxicity; R/R: Relapsed Refractory
¹ NCT06325748; ² 1-2 prior for MDS

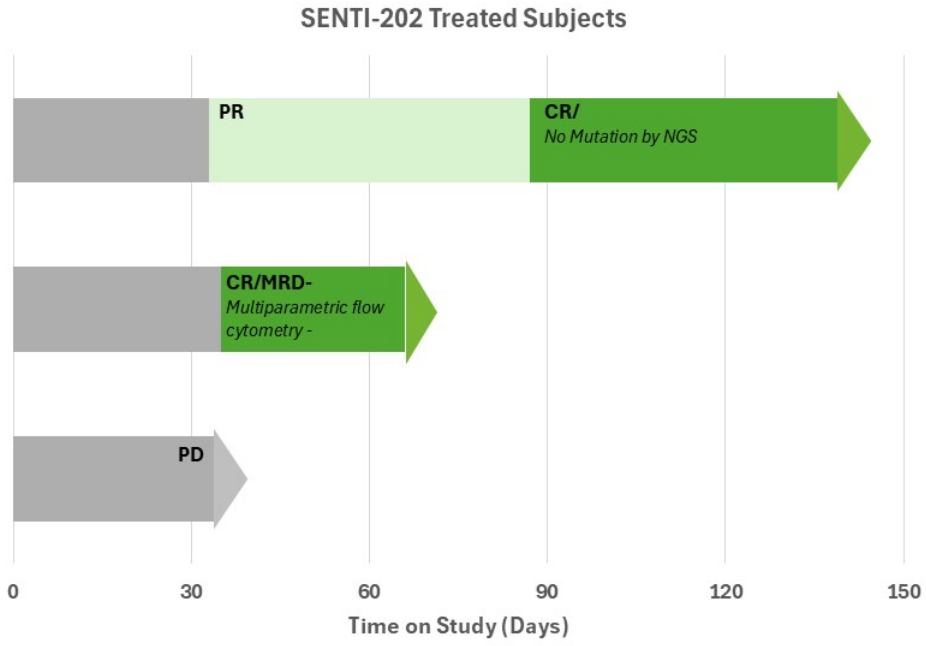
SENTI-202-101 Clinical Study Program Overview

Early efficacy signals noted at the first dose level

- Enrollment
 - Dose Level 1 (1 billion CAR+ NK cells/dose) cleared: 3 R/R AML patients enrolled
 - Dose Level 2 (1.5 billion CAR+ NK cells / dose) cohort actively enrolling
- Safety Data
 - SENTI-202 is well tolerated with a tolerability profile consistent with other investigational NK cell therapies, and patients with underlying AML receiving lymphodepleting chemotherapy
- Efficacy Data
 - 2/3 patients Mutation Neg/ MRD Neg CR (including 1 with adverse risk genetics)
 - 1/3 patient no response/ progressive disease
- PK
 - SENTI-202 transgene consistently detected in the periphery in all 3 of the 1 billion CAR+ NK cells / dose patients

SENTI-202-101 Time on Study

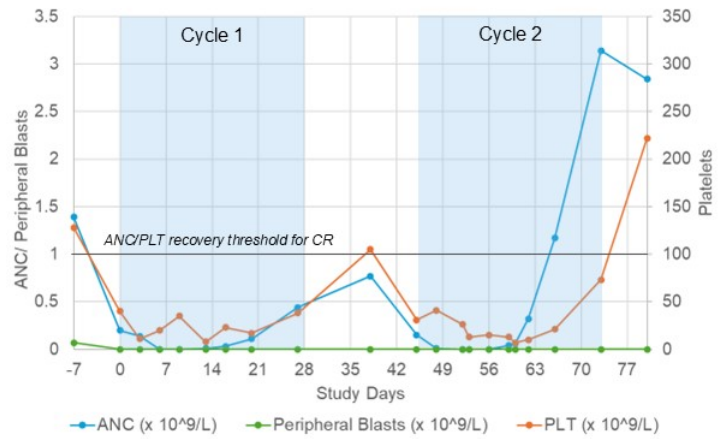
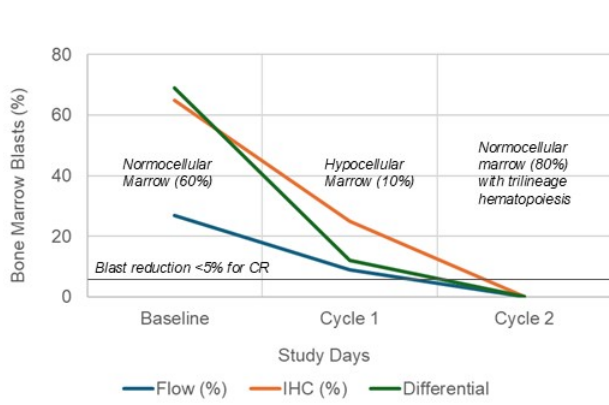
Early efficacy signals noted at the first dose level, both CR patients continue in CR at 1+ month



NGS: Next-generation sequencing; MRD: measurable residual disease
Data from an open clinical database of an ongoing study and PI/ site communication as of 19 Sep 2024

SENTI-202-101 – Patient 1

First Patient with CR after 2 cycles and clearance of all AML mutations by NGS



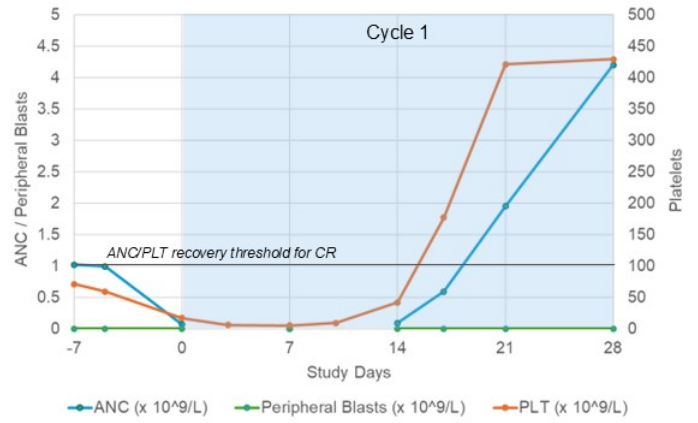
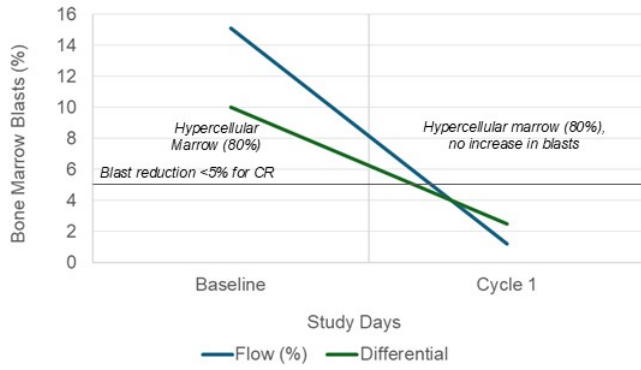
26F with adverse-risk R/R AML (MDS related gene mutations) relapsed after intensive chemotherapy and prior HCT

- SENTI-202 well tolerated with no DLT/ AEI
- AEs include G4 hematologic toxicity consistent with lymphodepletion that resolved with AML response, and G3 infections
- Patient continues in CR with ~ 2 months follow up

ANC: Absolute Neutrophil Count; PLT: Platelet Count
Data from an open clinical database of an ongoing study and PI/ site communication as of 19Sep2024

SENTI-202-101 – Patient 2

Second Patient with MRD- CR by MRD flow cytometry after 1 cycle



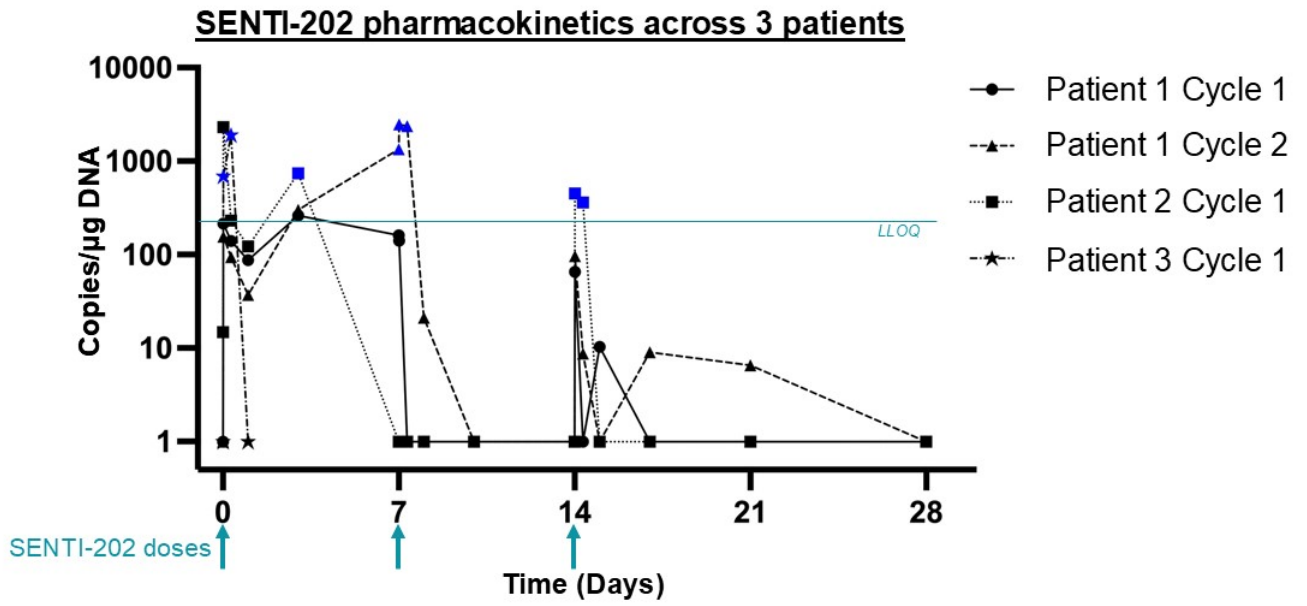
72M with FLT3 mutated (intermediate risk) R/R AML that relapsed after intensive chemotherapy and FLT3 inhibitor

- SENTI-202 well tolerated with no DLT/ SAEs
- AEs include G4 hematologic toxicity consistent with lymphodepletion that resolved with AML response, and G2 fever (CRS) that resolved with supportive care
- Patient is currently receiving a second cycle as consolidation therapy

ANC: Absolute Neutrophil Count; PLT: Platelet Count
Data from an open clinical database of an ongoing study and PI/ site communication as of 19Sep2024

SENTI-202 Initial Correlative Data

SENTI-202 is detected in the peripheral blood across all patients



Interim data as of 19 Sep2024

Nominal value of 1 assigned for timepoints with non-measurable transgene
LLOQ extrapolated from copies/ reaction and is the lower limit of quantitation

December 2024

SENTI-202 Mechanism of Action and Early Clinical Results are Promising Indicators of a Differentiated Clinical Profile

2024 Accomplishments

- ✓ First patient dosed in 2Q 2024
- ✓ Initial clinical efficacy data by year-end 2024

Anticipated Clinical Catalysts

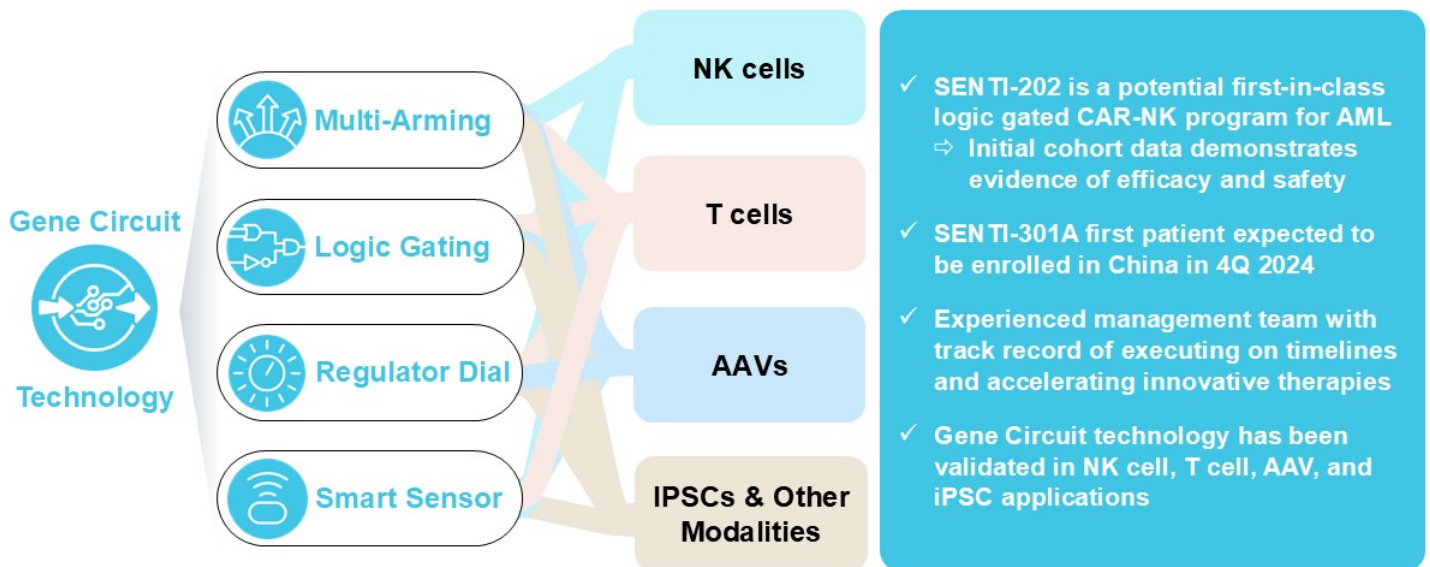
- Durability data in 2025

- Generally well-tolerated at first dose level of 1 billion CAR+ NK cells / dose
- Second dose level of 1.5 billion CAR+ NK cells / dose is actively enrolling
- Early clinical responses in two of three R/R AML patients along with robust count recovery are promising
- SENTI-202 PK generally consistent with allogenic CAR NK therapy with peaks detected post infusion at the first dose level

SENTI-202 is designed to integrate validated mechanisms into one solution, engineered to solve key outstanding problems in AML



Executing Towards Bringing Gene Circuit Medicines to Patients





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SENTI-202 Initial Clinical Data

Q&A

