

**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): June 7, 2023**

**SANA BIOTECHNOLOGY, INC.**

(Exact name of registrant as specified in its charter)

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

**001-39941**  
(Commission  
File Number)

**83-1381173**  
(IRS Employer  
Identification Number)

**188 East Blaine Street, Suite 400  
Seattle, Washington 98102**  
(Address of principal executive offices, including Zip Code)

**Registrant's telephone number, including area code: (206) 701-7914**

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, \$0.0001 par value per share	SANA	The Nasdaq Stock 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 7.01 Regulation FD Disclosure.**

Sana Biotechnology, Inc. (the “Company”) intends to discuss an updated corporate presentation (the “Corporate Presentation”) at the Jefferies Healthcare Conference on June 7, 2023. A copy of the Corporate Presentation is furnished as Exhibit 99.1 to this Current Report on Form 8-K (this “Current Report”) and is incorporated by reference herein.

By furnishing the information in this Item 7.01 of this Current Report, including Exhibit 99.1, the Company makes no admission as to the materiality of such information. The information contained herein is intended to be considered in the context of the Company’s filings with the U.S. Securities and Exchange Commission (the “SEC”) and other public announcements that the Company makes, by press release or otherwise, from time to time. The Company undertakes no duty or obligation to publicly update or revise the information contained in the Corporate Presentation, although it may do so from time to time as its management believes is appropriate. Any such updating may be made through the filing of other reports or documents with the SEC, through press releases or through other public disclosure.

In accordance with General Instruction B.2 of Form 8-K, the information furnished with this Current Report, including Exhibit 99.1, shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (“Exchange Act”), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference into any other filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

See the Exhibit Index below, which is incorporated by reference herein.

**EXHIBIT INDEX**

<b>Exhibit Number</b>	<b>Description</b>
99.1	<a href="#">Corporate Presentation dated June 7, 2023</a>
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 thereunto duly authorized.

**Sana Biotechnology, Inc.**

Date: June 7, 2023

By: \_\_\_\_\_ /s/ Bernard J. Cassidy  
**Bernard J. Cassidy**  
**Executive Vice President and General Counsel**



# Corporate Presentation

June 2023



# Cautionary Note Regarding Forward-Looking Statements

**This presentation contains forward-looking statements about Sana Biotechnology, Inc.** (the “Company,” “we,” “us,” or “our”) within the meaning of the federal securities laws. All statements other than statements of historical facts contained in this presentation, including, among others, statements regarding the Company’s strategy, expectations, cash runway and future financial condition, future operations, and prospects, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “design,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “positioned,” “potential,” “predict,” “seek,” “should,” “target,” “will,” “would” and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology. The Company has based these forward-looking statements largely on its current expectations, estimates, forecasts and projections about future events and financial trends that it believes may affect its financial condition, results of operations, business strategy and financial needs. In light of the significant uncertainties in these forward-looking statements, you should not rely upon forward-looking statements as predictions of future events. These statements are subject to risks and uncertainties that could cause the actual results to vary materially, including, among others, the risks inherent in drug development such as those associated with the initiation, cost, timing, progress and results of the Company’s current and future research and development programs, preclinical studies, and clinical trials.

For a detailed discussion of the risk factors that could affect the Company’s actual results, please refer to the risk factors identified in the Company’s SEC reports, including its Quarterly Report on Form 10-Q dated May 8, 2023. Except as required by law, the Company undertakes no obligation to update publicly any forward-looking statements for any reason.



# Sana Biotechnology

## Engineered Cells as Medicines

### **Sana's ambition is to repair or replace any cell in the body. Technologies address fundamental barriers:**

- **Hypoimmune (HIP) technology:** Overcoming immune rejection of allogeneic cells
- **Fusogen technology:** *In vivo* delivery of genomic modification reagents in a cell-specific manner

### **Overcoming immune rejection of allogeneic cells has potential to change cell therapy:**

- Allogeneic CAR T cells that perform clinically like autologous CAR T cells can transform treatment of hematological malignancies
- Key to unlocking the potential of stem cell-derived therapies such as pancreatic islet cells for the treatment of type 1 diabetes

### **Two opportunities in 2023 for clear clinical proof of concept:**

- SC291: Cell persistence and clinical efficacy
- HIP primary islets in patients with type 1 diabetes
- Results will provide insights in CAR T cell and stem-cell based platforms – ability to overcome allogeneic and autoimmune cell rejection

### **Pipeline poised to deliver multiple clinical data readouts over next several years:**

- **Hypoimmune allogeneic CAR T cells:** SC291 (CD19), SC262 (CD22), SC255 (BCMA), and beyond
- **Regenerative medicine:** SC451 (type 1 diabetes) and SC379 (CNS disorders)
- ***In vivo* fusogen platform:** SG299

### **Balance sheet allows potential for multiple data readouts**



# Sana's platforms, technology, and programs

Pipeline poised to deliver multiple clinical data readouts over next several years

Product Candidates	Mechanism	Potential Indications	Expected Clinical Milestones	
			2023	2024
SC291 (HIP)	CD19-targeted allo CAR T	NHL/ALL/CLL/Autoimmune	●	●
HIP primary islet cells <sup>1</sup>		Type 1 Diabetes	● ●	●
SG299 (Fusogen)	<i>In vivo</i> CAR T (CD8/CD19)	NHL/ALL/CLL	●	●
SC262 (HIP)	CD22-targeted allo CAR T	NHL/ALL/CLL	●	●
SC451 (HIP)	Stem-cell derived pancreatic islet cells	Type 1 Diabetes		● ●
SC255 (HIP)	BCMA-targeted allo CAR T	Multiple Myeloma		●
SC379	Glial progenitor cells	PMD, HD, SPMS		●
SG239 (Fusogen)	<i>In vivo</i> CAR T (CD8/BCMA)	Multiple Myeloma		
SG242 (Fusogen)	<i>In vivo</i> CAR T (CD4/CD19)	NHL/ALL/CLL		
SG221 (Fusogen)	<i>In vivo</i> CAR T (CD4/BCMA)	Multiple Myeloma		
SG233 (Fusogen)	<i>In vivo</i> CAR T (CD8/CD22)	NHL/ALL/CLL		
SG418 (Fusogen)	<i>In vivo</i> hematopoietic stem cells	SCD, Beta-Thalassemia		

● IND filing  
● Clinical Data

<sup>1</sup>IST, investigator sponsored trial.

Abbreviations: ALL, acute lymphoblastic leukemia; CLL, chronic lymphocytic leukemia; HD, Huntington's disease; IND, investigational new drug; NHL, non-Hodgkin's lymphoma; PMD, Pelizaeus-Merzbacher Disease; SCD, sickle cell disease; SPMS, Secondary Progressive Multiple Sclerosis.



© 2020-2023 Sana Biotechnology. All rights reserved.

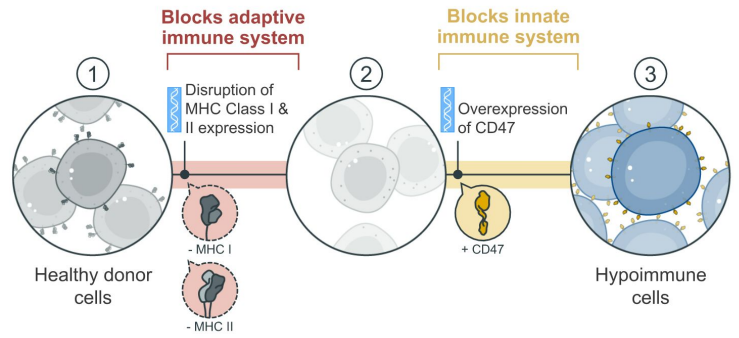


# Sana's hypoimmune solution: Leverage insights from nature

Leverage insights from nature to create hypoimmune cells



## Sana's hypoimmune approach



Abbreviations: MHC, major histocompatibility complex.  
Current clinical platform with multiple ongoing approaches in research phase.



# Sana's team has pioneered hypimmune technology

nature biotechnology LETTERS  
<https://doi.org/10.1038/s41587-019-0096-3>

## Hypimmunogenic derivatives of induced pluripotent stem cells evade immune rejection in fully immunocompetent allogeneic recipients

Tobias Deuse<sup>1,2</sup>, Xiaomeng Hu<sup>1,2,3,4</sup>, Alessia Gravina<sup>1</sup>, Dong Wang<sup>1,2</sup>, Grigori Tediashvili<sup>1,2,3</sup>, Chandrav De<sup>1</sup>, William O. Thayer<sup>1</sup>, Angela Wahl<sup>1</sup>, J. Victor Garcia<sup>1</sup>, Hermann Reichenspurner<sup>1,2,3</sup>, Mark M. Davis<sup>1</sup>, Lewis L. Lanier<sup>1,2</sup> and Sonja Schrepfer<sup>1,2,3</sup>



## ARTICLE The SIRPα-CD47 immune checkpoint in NK cells

Tobias Deuse<sup>1,2</sup>, Xiaomeng Hu<sup>1,2,3,4</sup>, Sean Agbor-Enoh<sup>1,2</sup>, Moon K. Jung<sup>1</sup>, Malik Alaw<sup>1</sup>, Ceren Soygi<sup>1</sup>, Alessia Gravina<sup>1</sup>, Grigori Tediashvili<sup>1,2,3</sup>, Vish Q. Nguyen<sup>1</sup>, Yuan Liu<sup>1</sup>, Hannah Valente<sup>1</sup>, Lewis L. Lanier<sup>1,2,3,4</sup> and Sonja Schrepfer<sup>1,2,3,5</sup>

Here we report on the existence and functionality of the immune checkpoint signal regulatory protein α (SIRPα) in NK cells and describe how it can be modulated for cell therapy. NK cell SIRPα is up-regulated upon IL-2 stimulation, interacts with target cell CD47 in a threshold-dependent manner, and counters other stimulatory signals, including IL-2, CD16, or NKGD2. Elevated expression of CD47 protected K562 tumor cells and mouse and human MHC class I-deficient target cells against SIRPα<sup>+</sup> primary NK cells, but not against SIRPα<sup>-</sup> NK or NK92 cells. SIRPα deficiency or antibody blockade increased the killing capacity of NK cells. Overexpression of rhesus monkey CD47 in human MHC-deficient cells prevented cytotoxicity by rhesus NK cells in a xenogeneic setting. The SIRPα-CD47 axis was found to be highly species specific. Together, the results demonstrate that disruption of the SIRPα-CD47 immune checkpoint may augment NK cell antitumor responses and that elevated expression of CD47 may prevent NK cell-mediated killing of allogeneic and xenogeneic tissues.

PNAS  
<https://doi.org/10.1073/pnas.1911111116>

## Hypimmune induced pluripotent stem cell-derived cell therapeutics treat cardiovascular and pulmonary diseases in immunocompetent allogeneic mice

Tobias Deuse<sup>1,2</sup>, Grigori Tediashvili<sup>1,2,3</sup>, Xiaomeng Hu<sup>1,2,3,4</sup>, Alessia Gravina<sup>1</sup>, Annika Tamenang<sup>1,2</sup>, Dong Wang<sup>1,2</sup>, Andrew Connolly<sup>1,2</sup>, Christian Mueller<sup>1,2</sup>, Bettina Mallavia<sup>1,2</sup>, Mark R. Looney<sup>1,2</sup>, Malik Alaw<sup>1</sup>, Lewis L. Lanier<sup>1,2,3,4</sup>, and Sonja Schrepfer<sup>1,2,3,5</sup>

<sup>1</sup>Division of Cardiothoracic Surgery, Department of Surgery, Transplant and Stem Cell Immunobiology Laboratory, University of California, San Francisco, CA 94143; <sup>2</sup>Department of Cardiovascular Surgery, University Heart Center Hamburg, 20246 Hamburg, Germany; <sup>3</sup>German Center for Cardiovascular Research (DZHK) partner site Hamburg/Kiel/Lübeck, 20246 Hamburg, Germany; <sup>4</sup>Sana Biotechnology Inc., South San Francisco, CA 94080; <sup>5</sup>Department of Pathology, University of California, San Francisco, CA 94143; <sup>6</sup>Novartis Oncology Center, University of Massachusetts, Worcester, MA 01602; <sup>7</sup>Department of Pathology, University of Massachusetts, Worcester, MA 01602; <sup>8</sup>Department of Medicine, University of California, San Francisco, CA 94143; <sup>9</sup>Department of Laboratory Medicine, University of California, San Francisco, CA 94143; <sup>10</sup>Translational Core, University Medical Center Hamburg-Eppendorf, 20246 Hamburg, Germany; and <sup>11</sup>Department of Microbiology and Immunology and the Parker Institute for Cancer Immunotherapy, University of California, San Francisco, CA 94143

Contributed by Lewis L. Lanier, May 25, 2021 (sent for review October 22, 2020); reviewed by John Cooke and Yujin Shiba

Science Translational Medicine  
Current issue First release papers

HOME > SCIENCE TRANSLATIONAL MEDICINE > VOL. 15, NO. 991 > HUMAN HYPOIMMUNE PRIMARY PANCREATIC ISLETS AVOID REJECTION AND...

RESEARCH ARTICLE TYPE 1 DIABETES

## Human hypimmune primary pancreatic islets avoid rejection and autoimmunity and alleviate diabetes in allogeneic humanized mice

SHAOHONG HU<sup>1</sup>, COREY BATTIS<sup>1</sup>, ARI S. OLROYD<sup>1</sup>, ANNABELLE M. FRISER<sup>1</sup>, LEATHY WHITE<sup>1</sup>, CHI YOUNG<sup>1</sup>, RON BASCO<sup>1</sup>, SHEKHAN LAHRA<sup>1</sup>

FRANK WELLS<sup>1</sup>, J. AND SONJA SCHREPFER<sup>1</sup> 8 authors | [Authors Info & Affiliations](#)

SCIENCE TRANSLATIONAL MEDICINE • 12 April 2020 • Vol 15, Issue 991 • DOI: 10.1126/scitranslmed.aba0726

nature communications  
<https://doi.org/10.1038/s41467-023-37780-2>

## Article Hypimmune anti-CD19 chimeric antigen receptor T cells provide lasting tumor control in fully immunocompetent allogeneic humanized mice

Received: 24 September 2022 Accepted: 29 March 2023

A list of authors and their affiliations appears at the end of the paper

nature biotechnology  
<https://doi.org/10.1038/s41587-023-01784-x>

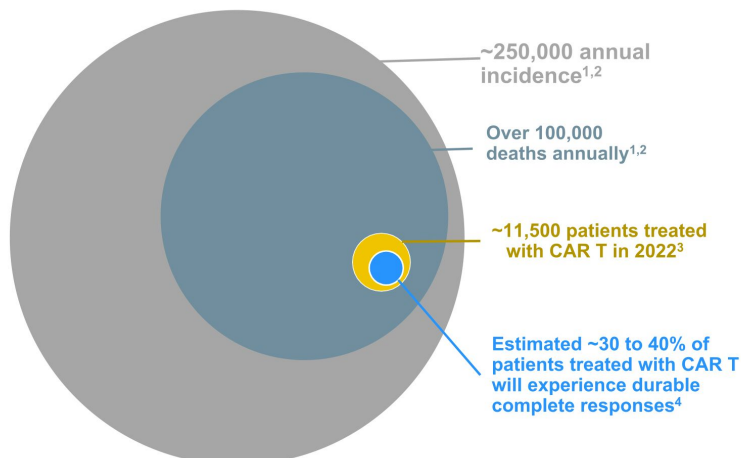
## Article Hypimmune induced pluripotent stem cells survive long term in fully immunocompetent, allogeneic rhesus macaques

Received: 18 May 2022 Accepted: 6 April 2023 Published online: 08 May 2023  
Xiaomeng Hu<sup>1</sup>, Kathy White<sup>1</sup>, Ari G. Olroyd<sup>1</sup>, Rowena DeJesus<sup>1</sup>, Antonia A. Dominguez<sup>1</sup>, William E. Dowdle<sup>1</sup>, Annabelle M. Friser<sup>1</sup>, Chi Young<sup>1</sup>, Frank Wells<sup>1</sup>, Elaine Y. Chu<sup>1</sup>, Cade Ellis Ho<sup>1</sup>, Harini Krishnaswari<sup>1</sup>, Surbhi Jain<sup>1</sup>, Ramya Ankala<sup>1</sup>, Trevor J. McGill<sup>1</sup>, August Lin<sup>1</sup>, Kyia Egenberger<sup>1</sup>, Allison Gagnon<sup>1</sup>, J. Michael Ruktala<sup>1</sup>, Nathaniel J. Hogrebe<sup>1</sup>, Corie Gattis<sup>1</sup>, Ron Basco<sup>1</sup>, Jeffrey R. Millman<sup>1</sup>, Paul Kleivit<sup>1</sup>, Mark M. Davis<sup>1</sup>, Lewis L. Lanier<sup>1,2</sup>, Andrew J. Connolly<sup>1</sup>, Tobias Deuse<sup>1,2</sup> & Sonja Schrepfer<sup>1,2,3</sup>



# Hematologic cancers continue to have a high unmet need

## High mortality in lymphoma and myeloma in the US and EU5



<sup>1</sup>Avezbakiyev et al. *Blood*. 2022

<sup>2</sup>Durie et al. *The Oncologist*. 2020

<sup>3</sup>Clarivate DRG NHL and MM Market Forecast Nov 2022; internal analysis of secondary EPI data.

<sup>4</sup>Scivida 2022 NHL Factbook

Abbreviations: EU5, France, Germany, Italy, Spain, UK



## Challenges

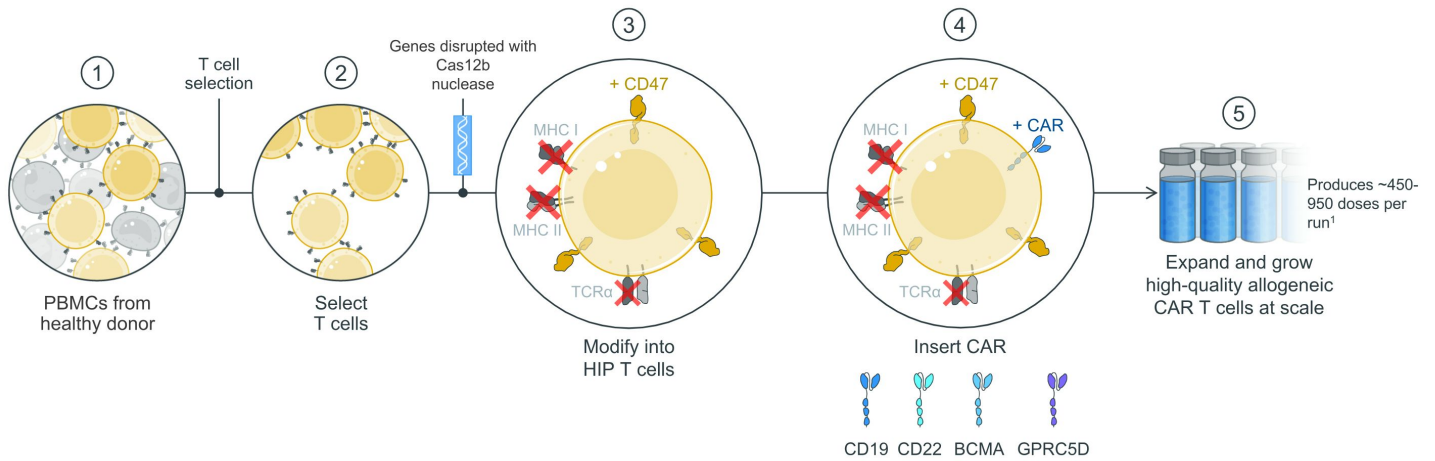
- Autologous CAR T cell scalability
- Many patients fail CAR T treatment
- Allogeneic CAR T cells immune rejection limits persistence and efficacy

## Opportunity

- Known targets
- Known efficacy and safety bar

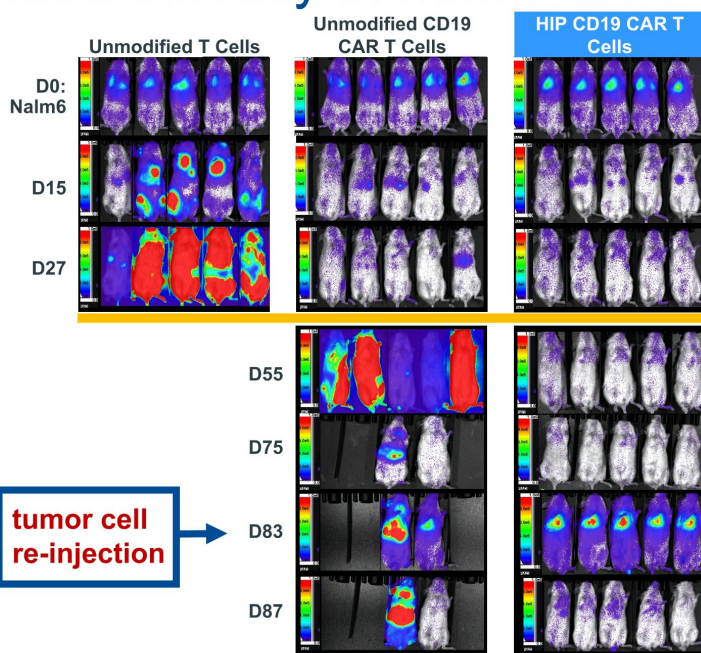
**Sana's HIP CAR T platform can address challenges and exploit opportunities**

# Sana's HIP platform can create a regenerative pipeline for allogeneic CAR T therapies



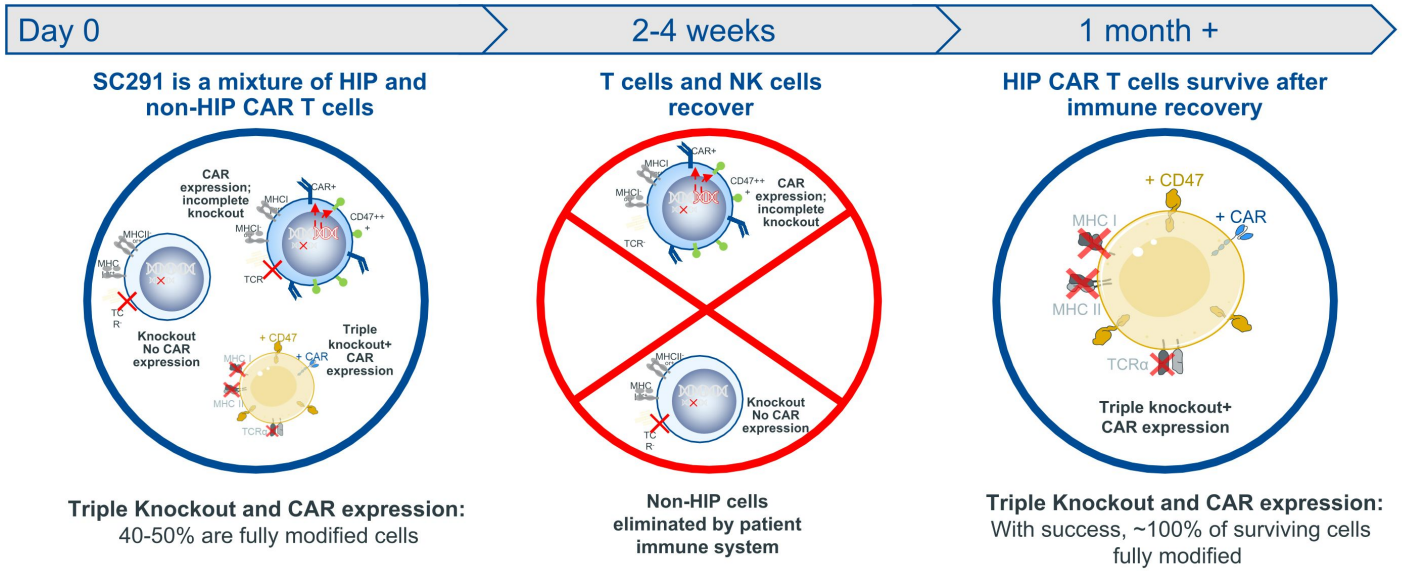
<sup>1</sup>~450 doses assumes the middle dose in the ARDENT Phase 1 study and ~950 doses assumes an autoimmune dose consistent with public data on current autoimmune dose levels. Abbreviations: Cas12b, CRISPR associated protein 12b; GPRC5D, G protein-coupled receptor, class C, group 5, member D; PBMC, peripheral blood mononuclear cell.

# HIP CD19 CAR T cells demonstrate persistence and continued efficacy in humanized mice model

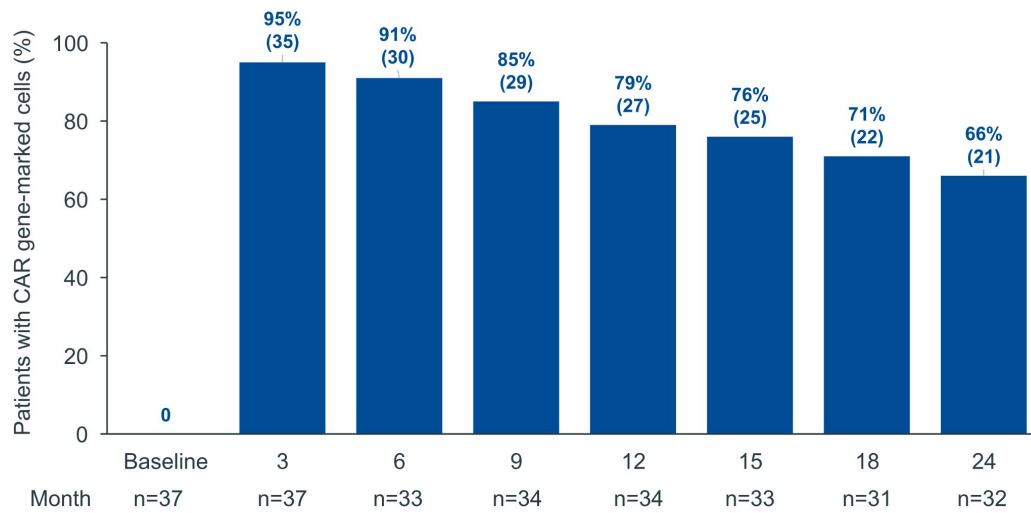


- SC291 tumor control comparable at early timepoints to standard CD19 CAR T cells
- SC291 tumor control superior at later timepoints to standard CD19 CAR T cells
- SC291 controls tumors when animals are rechallenged with tumor

# ARDENT trial will provide rapid insight into hypimmune immune evasion



# CAR T cells remain detectable in the majority of patients with ongoing response treated in ZUMA-1 trial



Locke et al. *Lancet Oncology*. 2019

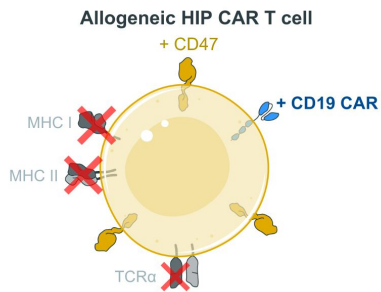


© 2020-2023 Sana Biotechnology. All rights reserved.

# Improved persistence can lead to best-in-class allogeneic CAR T platform

## SC291: Sana's CD19 HIP allogeneic CAR T

- First clinical data in 2023



## Data show CAR T cell persistence correlates with long term complete response (CRs) rates<sup>1</sup>

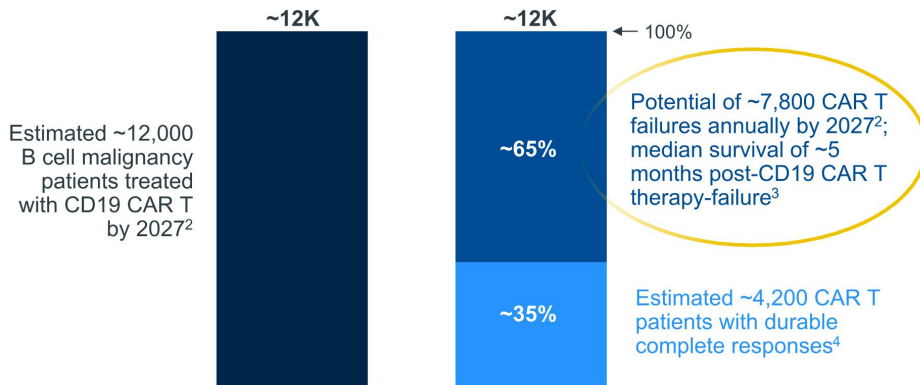
CAR T Persistence		Potential Efficacy Outcome
≤ 1 month	▶▶▶	Comparable to existing Allo CAR T
2 to 3 months	▶▶▶	Best-in-class Allo CAR T
3 to 6 months	▶▶▶	Comparable to Auto CAR T
≥ 6 months	▶▶▶	Better than Auto CAR T

<sup>1</sup>Porter et al. *Science Translational Medicine*. 2015

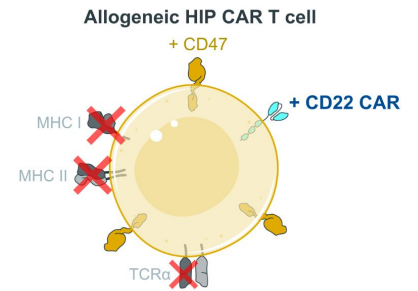


# SC262: Targeting growing population of patients with inadequate response to CD19 therapy

## CD19 CAR T relapsed patients represent large and growing unmet need<sup>1</sup>



## SC262 utilizes a clinically-validated CD22 CAR



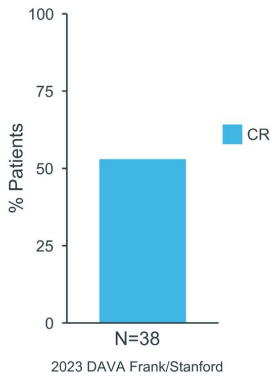
<sup>1</sup>US, EU5, and Japan.

<sup>2</sup>Clarivate DRG NHL Market Forecast Nov 2021; 2027 Forecast is 2L+ LBCL patients; internal analysis of secondary EPI data.

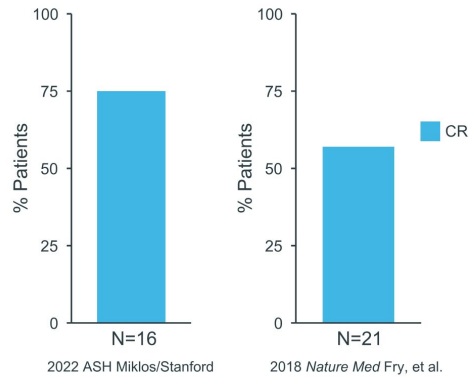
<sup>3</sup>Di Blasi et al. *Blood*.2022; DESCAR-T registry.

# SC262: Licensed CD22 CAR produced strong clinical data in CD19 failures when part of autologous CAR T

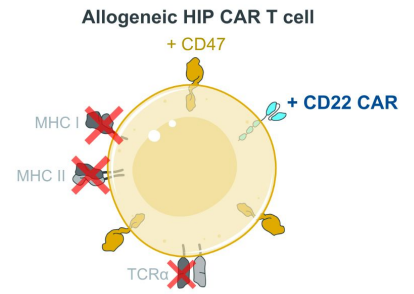
>50% 6-month CR rate in CD19 CAR failure DLBCL patients



High rate of CRs in CD19 failure ALL patients  
~80% patients with prior CD19 therapy



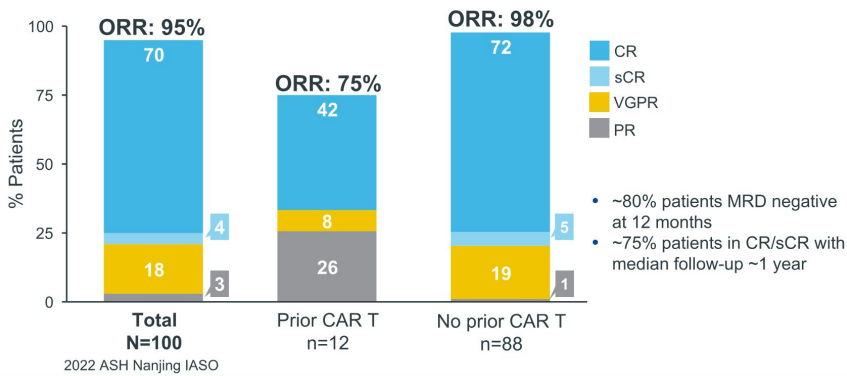
Expand our allo T platform to CD22 with Sana's SC262 candidate



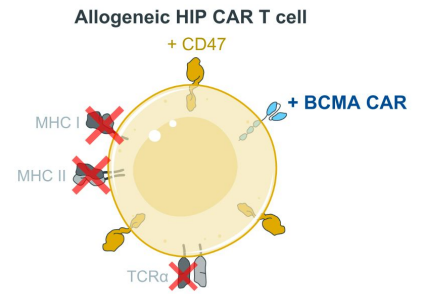
**SC262 Goals: File IND this year; clinical data in 2024**

# SC255: Licensed BCMA CAR produced strong clinical data in myeloma when part of autologous CAR T

## High response rate in multiple myeloma with 95% of patients MRD negative



## Expand our allo T platform to BCMA with Sana's SC255 candidate



**SC255 Goal: File IND as early as 2024**

Abbreviations: CR, complete response; ORR, objective response rate; PR, partial response; sCR, stringent complete response; VGPR, very good partial response.

# CAR T cells have the potential to transform autoimmune disorders like they have in blood cancers

## B-cell targeting validated across multiple autoimmune diseases

### Field has spent 25+ years identifying

- SLE
- Lupus Nephritis
- Vasculitis (Granulomatosis with polyangiitis & Microscopic polyangiitis)
- Neuromyelitis optical spectrum
- Pemphigus
- Relapsing and progressive MS
- Rheumatoid Arthritis
- Sjogren syndrome
- NMDAR encephalitis
- Thrombocytopenic purpura
- Amyloidosis
- Scleroderma
- Autoimmune Hemolytic Anemia
- Chronic immune demyelinating polyradiculoneuropathy
- Immune-mediated necrotizing myopathy
- Membranous nephropathy

## Depth of B-cell depletion correlates with clinical benefit

- CD19 CAR T cell therapy results in deep B-cell depletion
- Potential to deliver durable long-term remissions

## SC291 has the scale and potential profile to change patient outcomes

- Drug product from oncology studies ready for use
- PoC studies across multiple diseases in near term

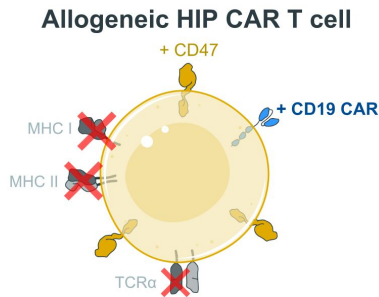
Adapted from Zhang et al. *Frontiers in Immunology*. 2023; Oh et al. *Immune Network*. 2023; Lee et al. *Nature Reviews Drug Discovery*. 2021



© 2020-2023 Sana Biotechnology. All rights reserved.

# SC291 product candidate offers potential to address large unmet need in various autoimmune disorders

## SC291: CD19 HIP allogeneic CAR T for treatment of autoimmune disorders



- >75 different types of autoimmune disorders with high unmet need and underlying B cell pathology
- Lupus nephritis alone impacts ~100,000 people in the US
- Utilize SC291 Phase 1 supply for potential rapid path to clinic

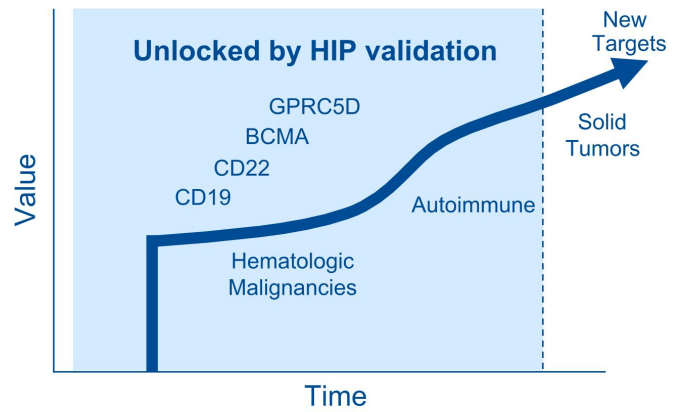
# Goal is to build a best-in-class CAR T portfolio to treat patients with a range of cancers and beyond

## Known

- Validated targets
- Validated CAR constructs
- >100,000 potential cancer patients worldwide<sup>1,2</sup>
- HIP platform understood in preclinical models

## Future State

- Potential for SLE and other autoimmune disorders
- Solid tumors
- HIP platform understood in humans



## Unlocking the potential of our allogeneic CAR T franchise across multiple patient populations

<sup>1</sup>Avezbakiyev et al. *Blood*. 2022  
<sup>2</sup>Durie et al. *The Oncologist*. 2020

# Type 1 diabetes represents a large unmet need with a loss of ~15 years of life<sup>1</sup>

- Disease caused by autoimmune destruction of insulin-producing beta cells in the pancreas; results in inability to control blood glucose
- Type 1 diabetes is a large unmet need with 1.9M patients in the U.S. and 2.4M in Europe<sup>2</sup>
- Long-term complications: end-organ damage, including heart attack, stroke, blindness, and kidney failure
- SC451 goal is euglycemia without exogenous insulin or immunosuppression

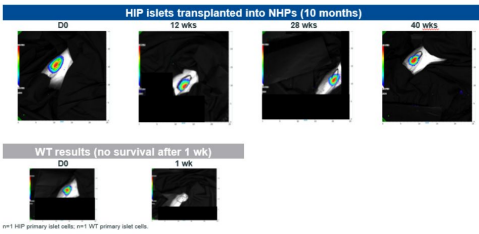


<sup>1</sup>Rawshani et al. *Lancet*. 2018

<sup>2</sup>Clarivate Type 1 Diabetes Landscape & Forecast, December 2022; internal analysis of secondary EPI data.

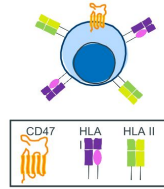
# Sana's solution: SC451 is an allogeneic iPSC-derived hypimmune pancreatic islet cell therapy

## 1. Hypimmune technology overcomes allogeneic rejection and autoimmunity



## 2. iPSC-derived islet cells can be scaled to treat many patients

Create iPSC GMP master cell bank



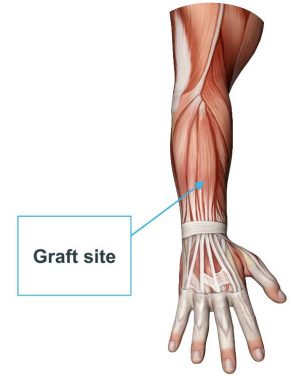
Starting iPSC cell

Differentiate iPSCs into glucose-responsive islet cells that are hypimmune

HLA I  
HLA II + CD47

Hypimmune iPSC-derived islet cells

## 3. Intramuscular implantation site improves access and function



Hu et al. *Nature Biotechnology*. 2023



© 2020-2023 Sana Biotechnology. All rights reserved.

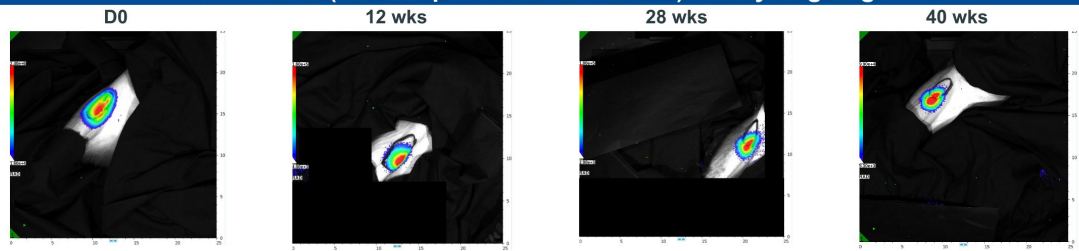


# Survival of allogeneic hypoimmune pancreatic islet cells for 10+ months without immunosuppression

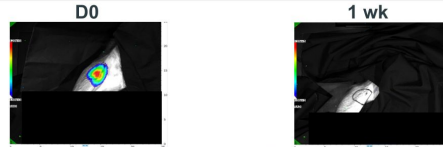
## Study design:

- NHP primary islet cells isolated and HIP-engineered
- Cells injected intramuscularly into a healthy, allogeneic NHP without immunosuppression

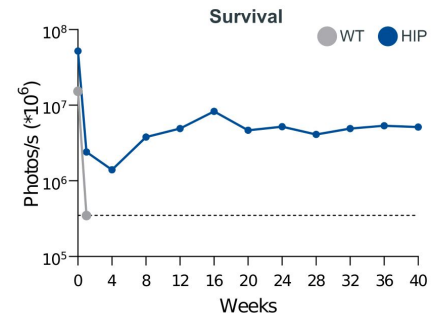
## HIP results (follow up shown: 10 months). Study ongoing.



## WT results (no survival after 1 wk)



n=1 HIP primary islet cells; n=1 WT primary islet cells.

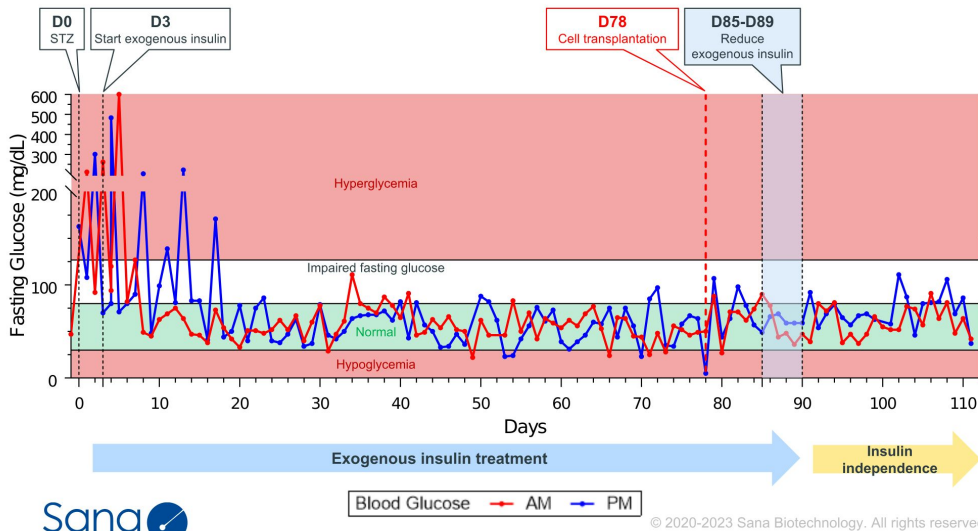


# HIP-modified allogeneic islet cells lead to normal blood glucose with no insulin and no immunosuppression in diabetic NHP

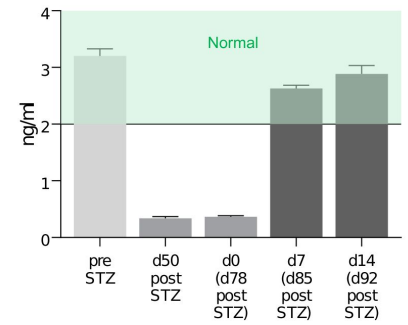
## Study Design (N=1)

- NHP primary islet cells isolated and HIP-modified
- Cells injected intramuscularly into a healthy, allogeneic NHP without immunosuppression

### Fasting Glucose

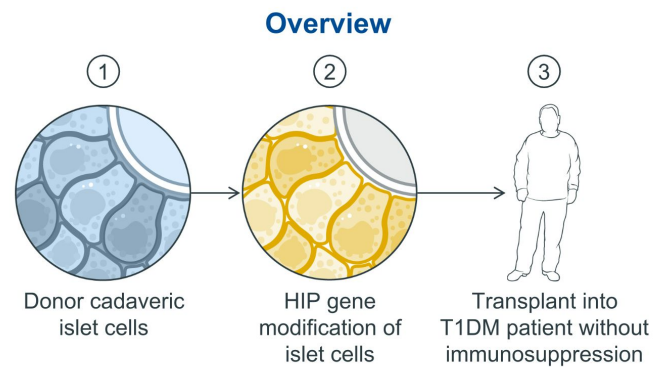


### C-peptide



# Path to potential clinical validation of hypoimmune islet cells in T1DM patients in 2023

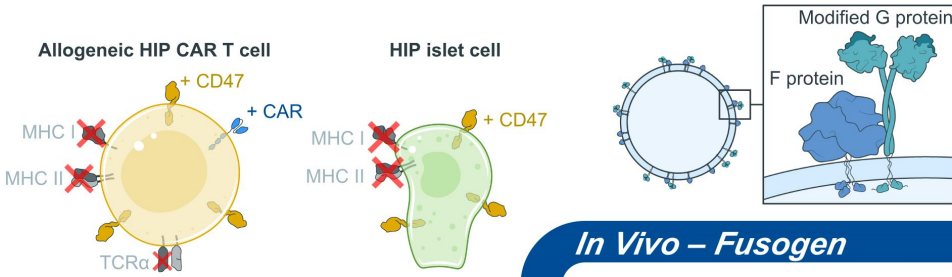
- Investigator sponsored trial
- Primary human HIP islet cells transplantation in type 1 diabetes patients
- Goal: Cell survival with no immunosuppression
- Goal: Data in 2023
- Insight for SC451



## Key Measured Outcomes

Cell survival & immune evasion  
C-peptide  
Glycemic control

# Sana aspiration: Engineered cells as medicines



Engineered cells into new therapeutic areas

## Ex Vivo – Hypoimmune

### Allogeneic CAR T Franchise

- Oncology: SC291, SC262, SC255
- Autoimmune

### Stem Cell-Derived

- Type 1 Diabetes: SC451
- CNS: SC379<sup>1</sup>

## In Vivo – Fusogen

- *In vivo* CAR T: SG299
- Cell-specific *in vivo* HSC editing: SG418
- Cell-specific delivery of genomic modification material

2023

<sup>1</sup>Does not incorporate hypoimmune genomic modifications

# Thank You

---

Sana Biotechnology  
[www.sana.com](http://www.sana.com)

