Corporate Presentation

November 2026

Sana Biotechnology®

Cautionary note regarding forward-looking statements

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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 November 5, 2026. Except as required by law, the Company undertakes no obligation to update publicly any forward-looking statements for any reason.

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Sana Biotechnology

Changing the Possible for Patients

Type 1 diabetes represents a significant opportunity with validated biology

- ~10M people WW live with type 1 diabetes; current standard treatment remains exogenous insulin
- Disease impact remains significant, and patients want new alternatives
- Sana has made meaningful progress over past year toward IND preparedness
- Collaboration with Mayo Clinic brings capital as well as support in building broad patient delivery model for SC451
- 2026 goal of filing SC451 IND and starting Phase 1/2 trial
- Rapid potential clinical proof of concept with demonstration of immune evasion, beta cell function, and glucose normalization

In vivo CAR T cells provide a second potential transformative platform

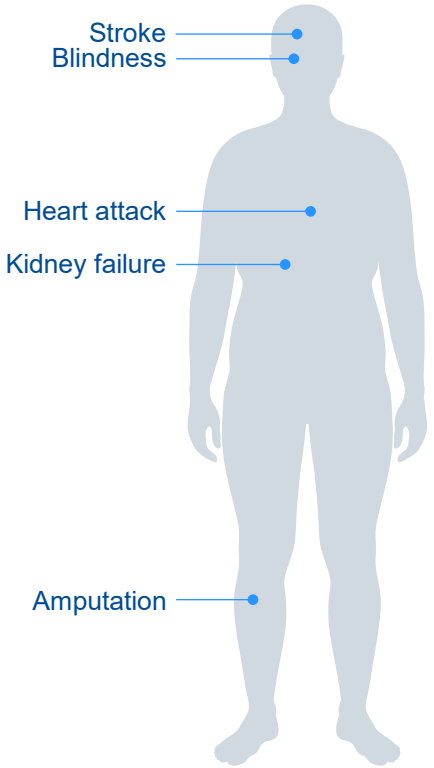
- CAR T cells are transformative for many people with blood cancers and autoimmune diseases, but have clear limitations
- *In vivo* CAR T cells have potential for no conditioning chemotherapy, comparable efficacy, off-the-shelf availability
- *In vivo* non-human primate (NHP) data: potent CAR T cells with cell-specific delivery
- SG293 in non-Hodgkin lymphoma – potential to share first-in-human data as early as 1H 2027
- SG227 in multiple myeloma – expect to begin clinical study as early as 2027

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Type 1 diabetes is a significant unmet need

- ~10M people WW with T1D; almost 2M in U.S. alone[1]
- Etiology: autoimmune destruction of insulin-producing pancreatic beta cells
- Insulin replacement therapy is not curative, and patients need something better
- With the best current care (automated insulin pumps and continuous glucose monitoring), life expectancy is still a decade shorter
- Patients and caregivers battle the daily burden to control glucose, short-term hypoglycemia risk, and long-term sequelae of high blood sugars

Diabetes can damage multiple organs and raise the risk of early death[2]



[1]T1D Index and the International Diabetes Foundation; [2]who.int/diabetes/global-report.

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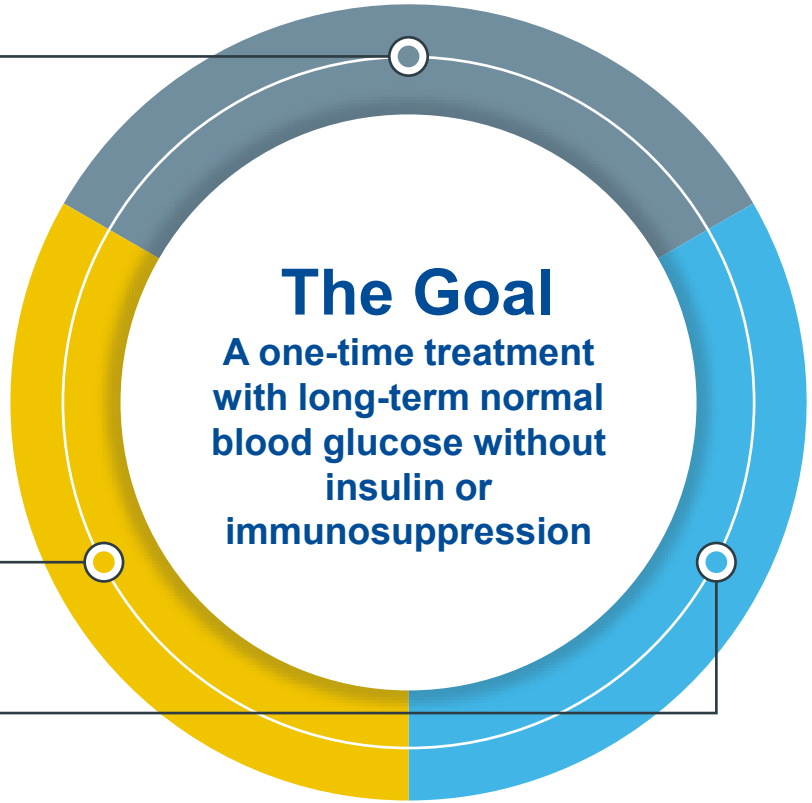
Advancing toward a cure for broad T1D population

T1D is a disease of missing pancreatic beta cells

1 **Primary islet transplants provide long-term glucose control, but:**
- Supply is an issue
- Requires chronic immunosuppression

2 **Stem-cell derived islets provide a scalable supply, but:**
- Requires chronic immunosuppression

3 **Hypoimmune edits eliminate the need for immunosuppression**



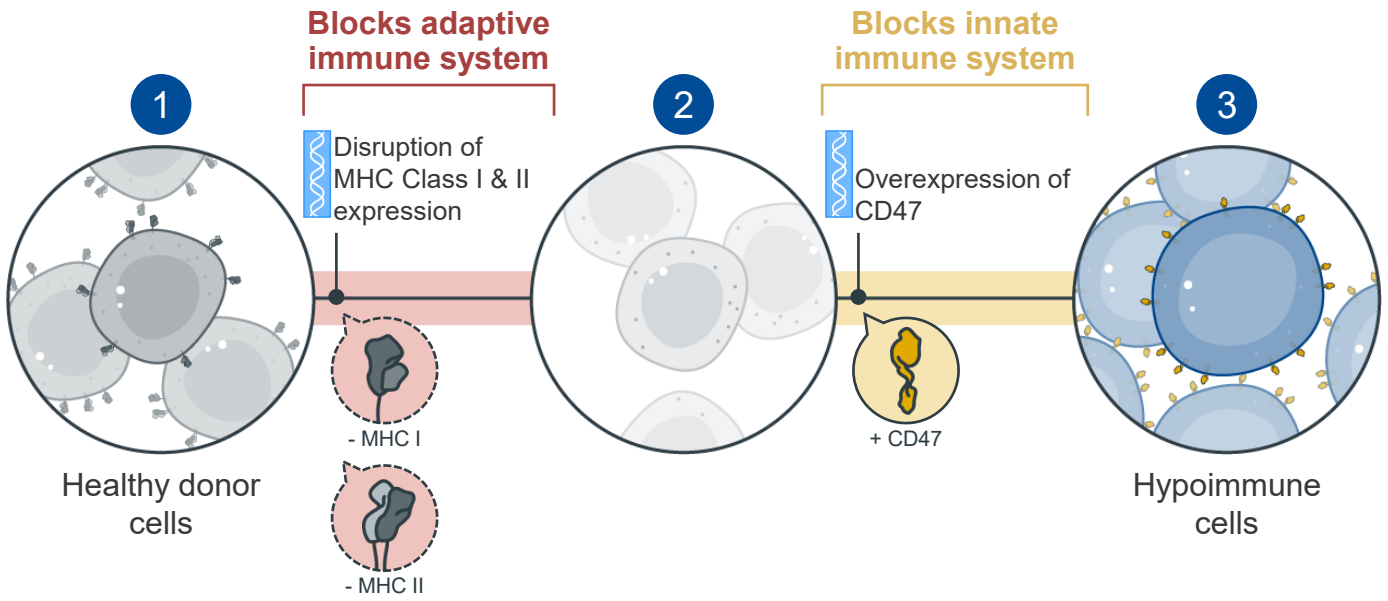
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Overcoming allogeneic immune rejection has been key limitation in transplant and cellular medicine

Allogeneic cell rejection

- ~75 years of transplants – immune rejection remains the largest problem
- Lifelong immunosuppression is current standard
- Genome modification efforts to date have generally been incomplete
- Autologous therapies have limited scalability and are only available for a small number of cell types

Sana's hypoimmune approach



Abbreviations: MHC, major histocompatibility complex.

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Sana has pioneered hypoimmune technology



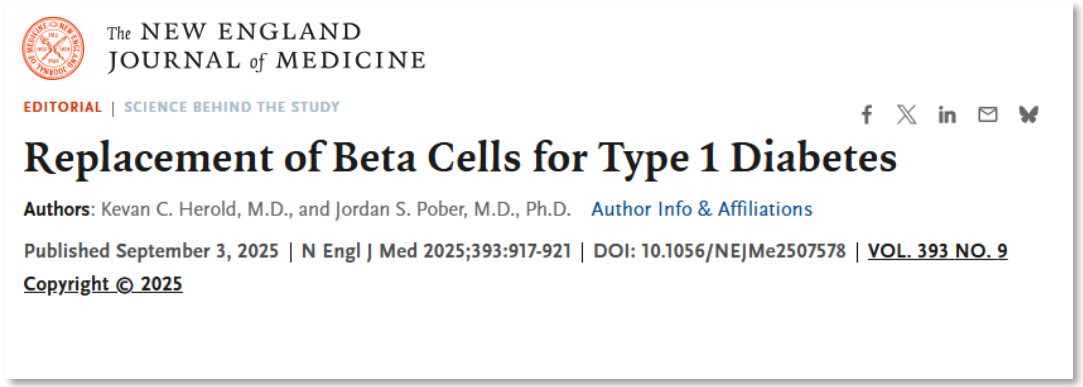
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE | BRIEF REPORT

Survival of Transplanted Allogeneic Beta Cells with No Immunosuppression

Authors: Per-Ola Carlsson, M.D., Ph.D., Xiaomeng Hu, Ph.D., Hanne Scholz, Ph.D., Sofie Ingvast, B.Sc., Torbjörn Lundgren, M.D., Ph.D., Tim Scholz, M.D., Ph.D., Olof Eriksson, Ph.D., Per Liss, M.D., Ph.D., Di Yu, Ph.D., Tobias Deuse, M.D., Olle Korsgren, M.D., Ph.D., and Sonja Schrepfer, M.D., Ph.D. Author Info & Affiliations

Published August 4, 2025 | DOI: 10.1056/NEJMoa2503822 | Copyright © 2025



The NEW ENGLAND JOURNAL of MEDICINE

EDITORIAL | SCIENCE BEHIND THE STUDY

Replacement of Beta Cells for Type 1 Diabetes

Authors: Kevan C. Herold, M.D., and Jordan S. Pober, M.D., Ph.D. Author Info & Affiliations

Published September 3, 2025 | N Engl J Med 2025;393:917-921 | DOI: 10.1056/NEJMe2507578 | VOL. 393 NO. 9

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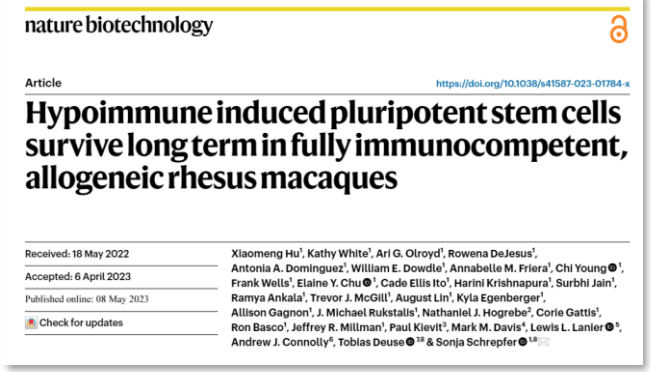
Cell Stem Cell

CellPress OPEN ACCESS

Brief Report

Hypoimmune islets achieve insulin independence after allogeneic transplantation in a fully immunocompetent non-human primate

Xiaomeng Hu,[1] Kathy White,[1] Chi Young,[1] Ari G. Olroyd,[1] Paul Kievit,[1,2] Andrew J. Connolly,[1,3] Tobias Deuse,[1,4,5] and Sonja Schrepfer[1,5,6,*]



nature biotechnology

Article https://doi.org/10.1038/s41587-023-01784-x

Hypoimmune induced pluripotent stem cells survive long term in fully immunocompetent, allogeneic rhesus macaques

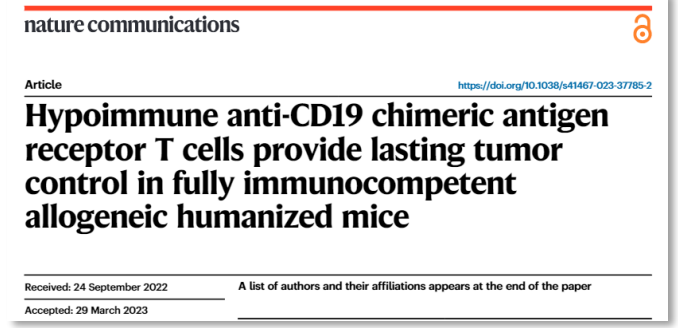
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Xiaomeng Hu[1], Kathy White[1], Ari G. Olroyd[1], Rowena DeJesus[1], Antonia A. Dominguez[1], William E. Dowdle[1], Annabelle M. Friera[1], Chi Young[1], Frank Wells[1], Elaine Y. Chu[1], Cade Ellis Ito[1], Harini Krishnapura[1], Surbhi Jain[1], Ramya Ankala[1], Trevor J. McGill[1], August Lin[1], Kyla Egenberger[1], Allison Gagnon[1], J. Michael Rukstalis[1], Nathaniel J. Hogrebe[2], Corie Gattis[1], Ron Basco[1], Jeffrey R. Millman[1], Paul Kievit[3], Mark M. Davis[4], Lewis L. Lanier[5], Andrew J. Connolly[6], Tobias Deuse[3,8] & Sonja Schrepfer[1,8]



nature communications

Article https://doi.org/10.1038/s41467-023-37785-2

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

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



Science Translational Medicine

Current Issue First release papers

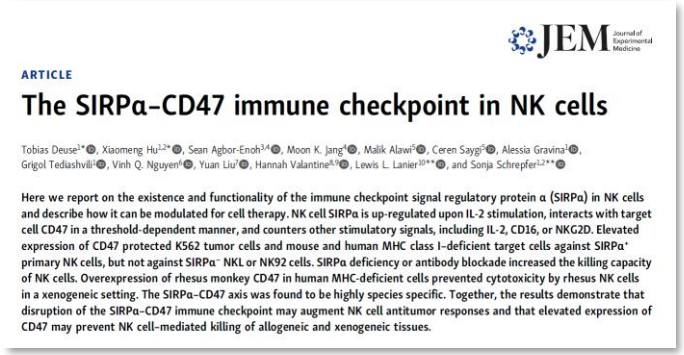
HOME > SCIENCE TRANSLATIONAL MEDICINE > VOL. 15, NO. 691 > HUMAN HYPOIMMUNE PRIMARY PANCREATIC ISLETS AVOID REJECTION AND...

RESEARCH ARTICLE | TYPE 1 DIABETES

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

XIAOMENG HU, CORIE GATTIS, ARI G. OLROYD, ANNABELLE M. FRIERA, KATHY WHITE, CHI YOUNG, RON BASCO, MEGHAN LAMBA, FRANK WELLS, [...], AND SONJA SCHREPFER +8 authors Authors Info & Affiliations

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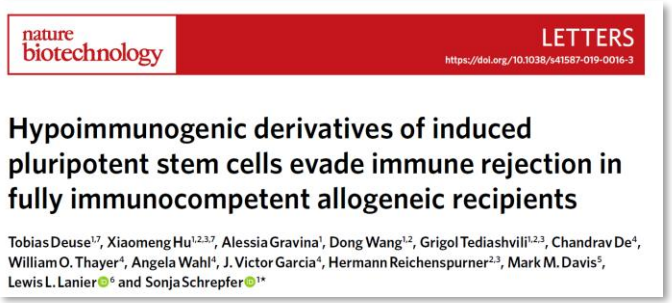
JEM Journal of Experimental Medicine

ARTICLE

The SIRPα–CD47 immune checkpoint in NK cells

Tobias Deuse[1,*], Xiaomeng Hu[1,2*], Sean Agbor-Enoh[3,4], Moon K. Jang[4], Malik Alawi[5], Ceren Saygi[5], Alessia Gravina[1], Grigol Tediashvili[6], Vinh Q. Nguyen[6], Yuan Liu[7], Hannah Valantine[8,9], Lewis L. Lanier[10,**], and Sonja Schrepfer[1,2,**]

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 NKG2D. Elevated expression of CD47 protected K562 tumor cells and mouse and human MHC class I–deficient target cells against SIRPα$^+$ primary NK cells, but not against SIRPα$^-$ NKL 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.



nature biotechnology LETTERS https://doi.org/10.1038/s41587-019-0016-3

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

Tobias Deuse[1,7], Xiaomeng Hu[1,2,3,7], Alessia Gravina[1], Dong Wang[1,2], Grigol Tediashvili[1,2,3], Chandrav De[4], William O. Thayer[4], Angela Wahl[4], J. Victor Garcia[4], Hermann Reichenspurner[2,3], Mark M. Davis[5], Lewis L. Lanier[6] and Sonja Schrepfer[1*]

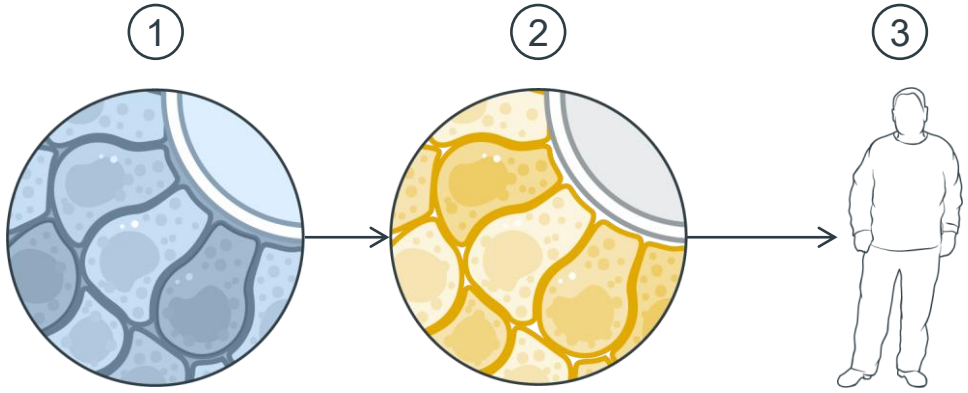
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Clinical validation of hypoimmune islet cells in T1D patient without immunosuppression

Overview

- Allogeneic, primary human **HIP islet cell** transplantation in type 1 diabetes patient
- Intramuscular administration in forearm
- No immunosuppression
- Low dose first-in-human safety study
- Trial performed at Uppsala University Hospital



Key Measured Outcomes

Safety
Immune evasion
Cell survival

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All primary and secondary endpoints met

UP421 continues to evade immune detection and function without any therapy-related adverse events

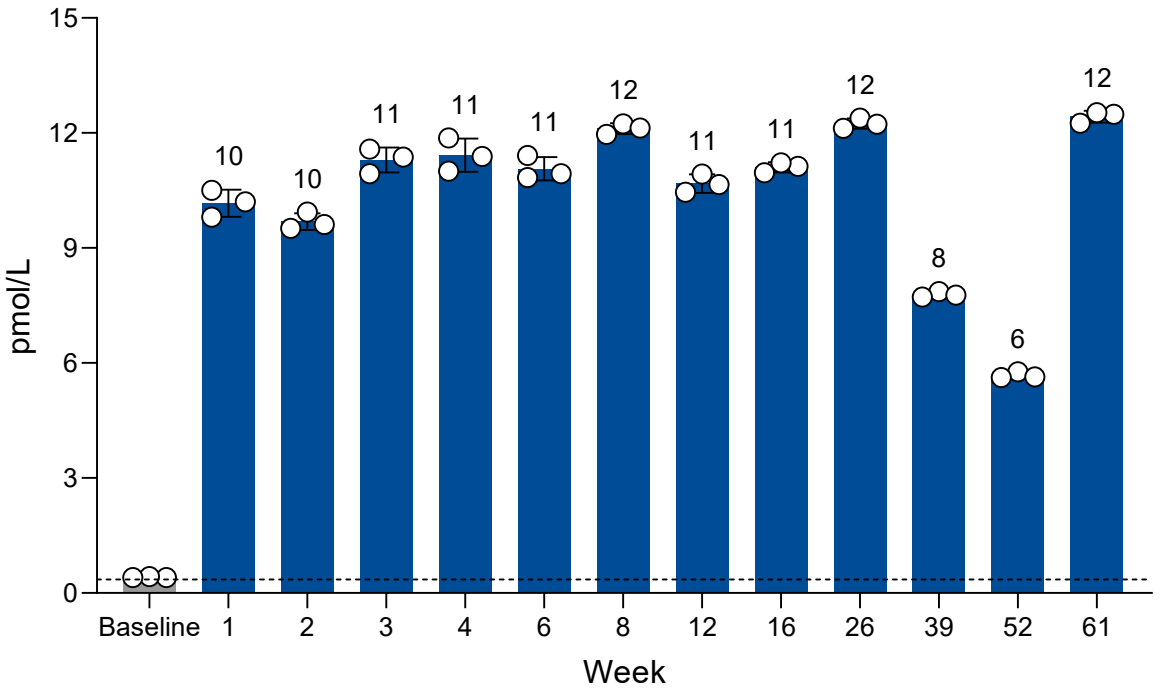
Endpoints	Wk 1	Wk 2	Wk 3	Wk 4	Wk 6	Wk 8	Wk 12	Wk 16/18	Wk 26	Wk 39	Wk 52
Safety (no AE/SAE related to drug)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cell survival/function (C-peptide)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Graft visibility (MRI)	✓	✓	Not performed (as per protocol)	✓	Not performed (as per protocol)	✓	✓ MRI & PET-MRI	✓	✓	Not performed (as per protocol)	✓ MRI & PET-MRI
Adaptive immune evasion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Innate immune evasion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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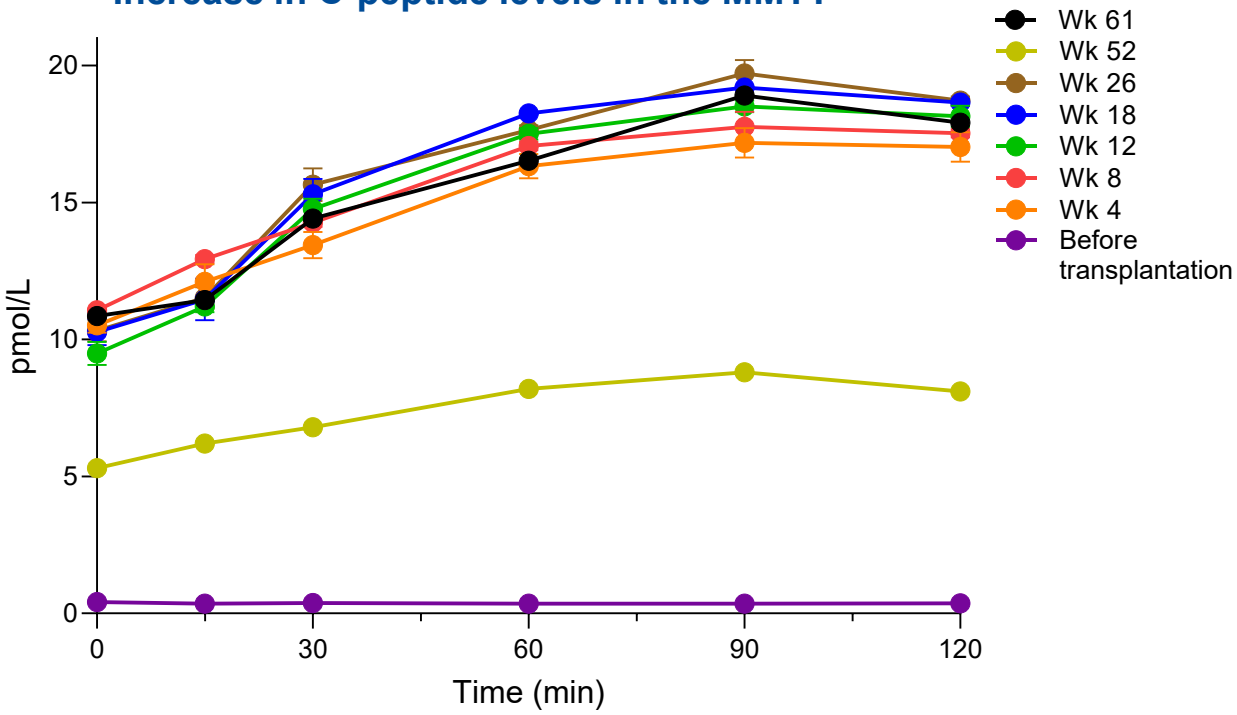
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HIP islet cell survival and function through 14 months

Basal C-peptide in peripheral blood



Increase in C-peptide levels in the MMTT

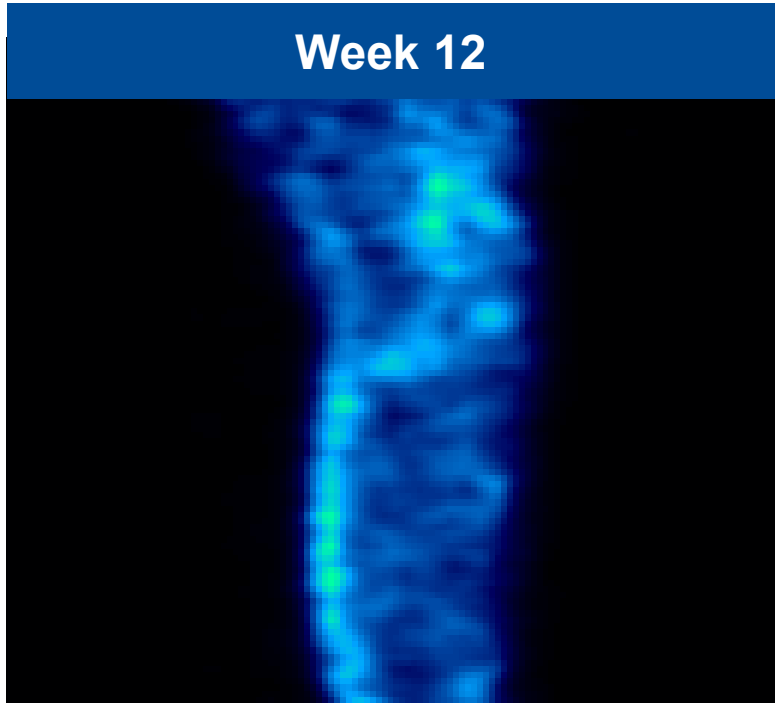


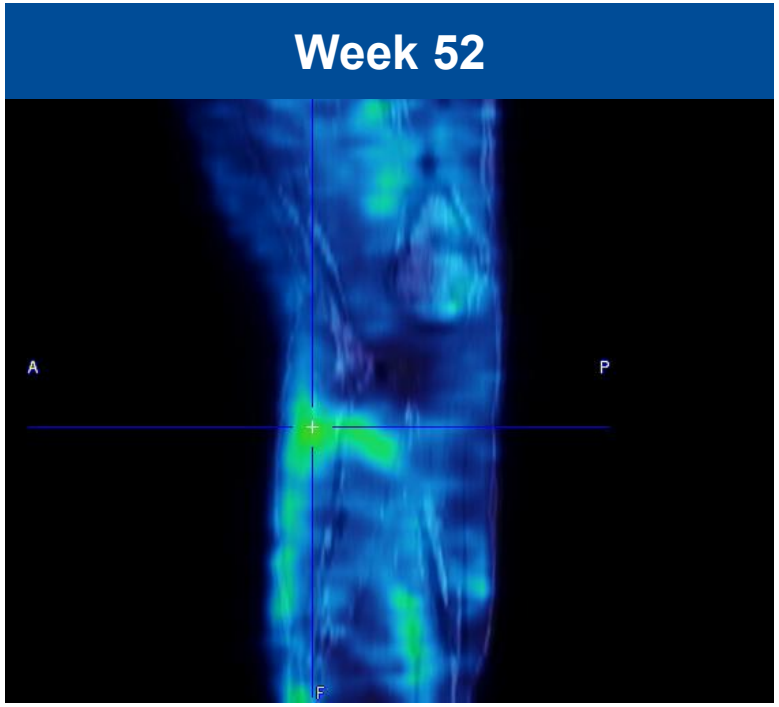
Baseline: Below limit of detection (LOD).Sensitivity: 0.48 pmol/L. Dots represent technical triplicates. C-peptide analyzed in serum.
Abbreviations: MMTT, mixed meal tolerance test.

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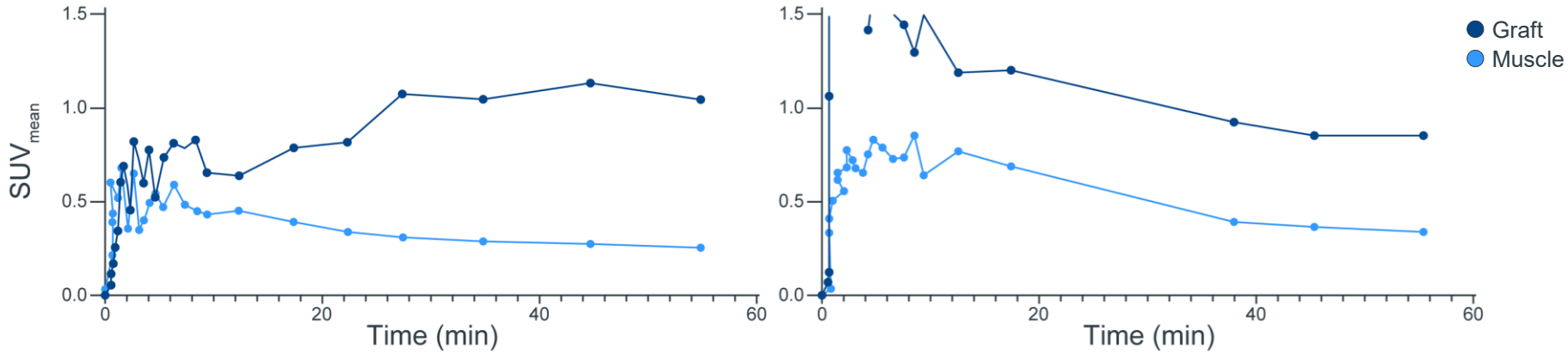
Week 12 and 52 PET/MRI: further evidence of graft survival

MR T2-STIR-weighted trans images showing signal in m. brachioradialis after injection of UP421





Uptake of Exendin-4 tracer specific for GLP-1R positive cells

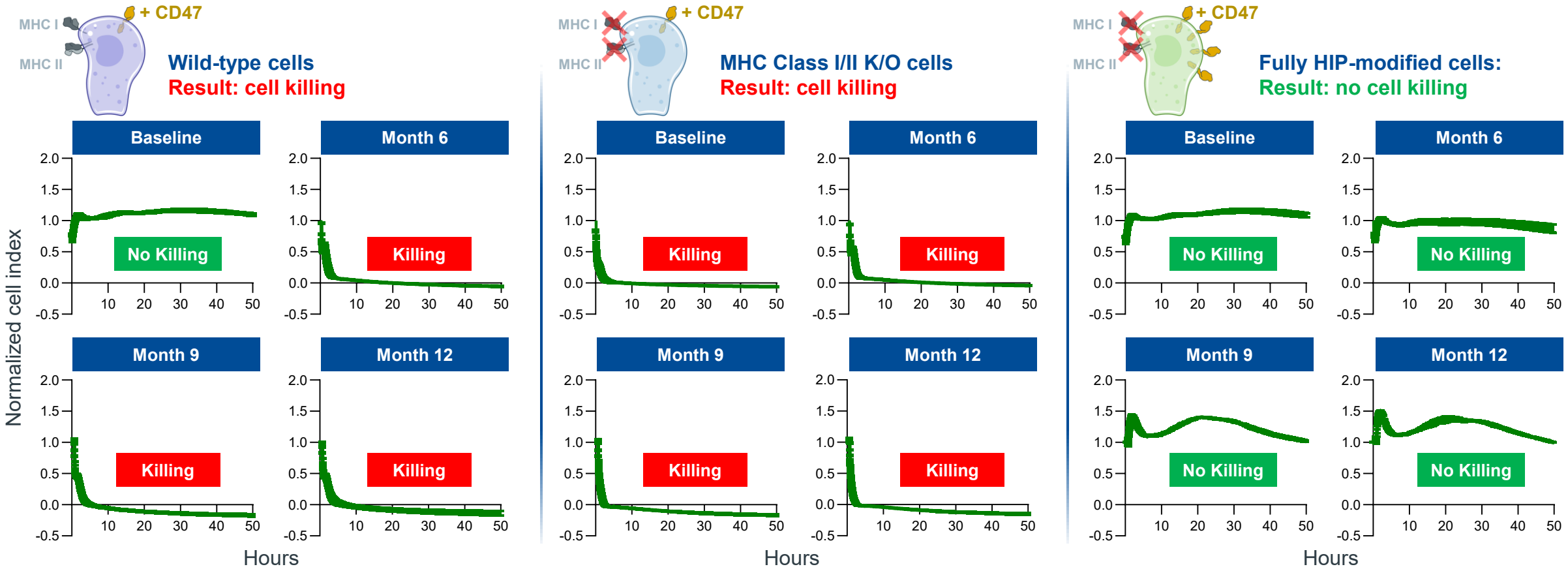


Abbreviations: GLP-1R, glucagon-like peptide-1 receptor; m, musculus; PET-MRI, positron emission tomography–magnetic resonance imaging; SUV, standardized uptake value.

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No detectable immune response toward HIP islet cells at 12 months

Assay tests patient immune cells (PBMCs) plus serum (antibodies plus complement) against various cell populations from UP421 drug product



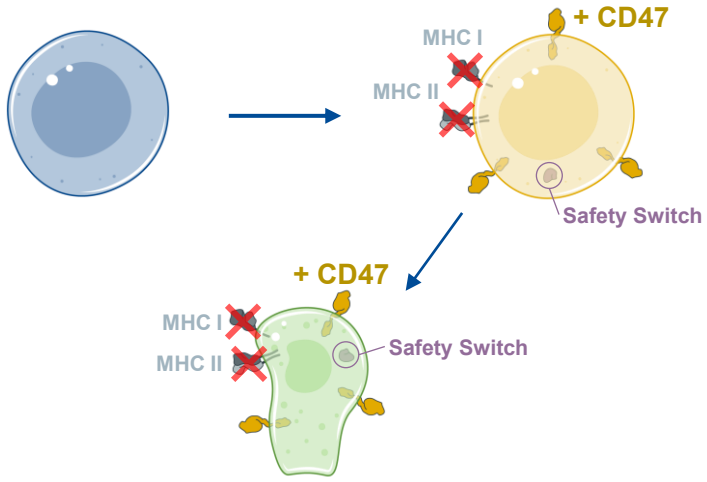
Summary: No killing of HIP-modified UP421 cell population by PBMC and serum

Abbreviation: PBMC, peripheral blood mononuclear cells; K/O, knock-out

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SC451: developing for the broad T1D population

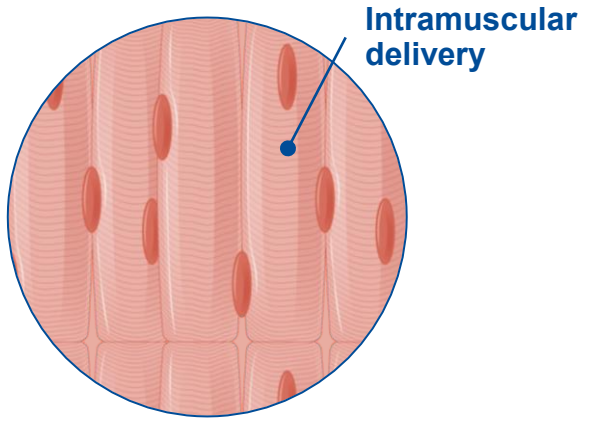
1 Make hypoimmune islet cells from stem cells



2 Manufacture at scale



3 Deliver as a one-time therapy



SC451 program – HIP stem cell-derived islet cell therapy delivered with no immunosuppression
Goal is to file IND and begin Phase 1/2 trial this year

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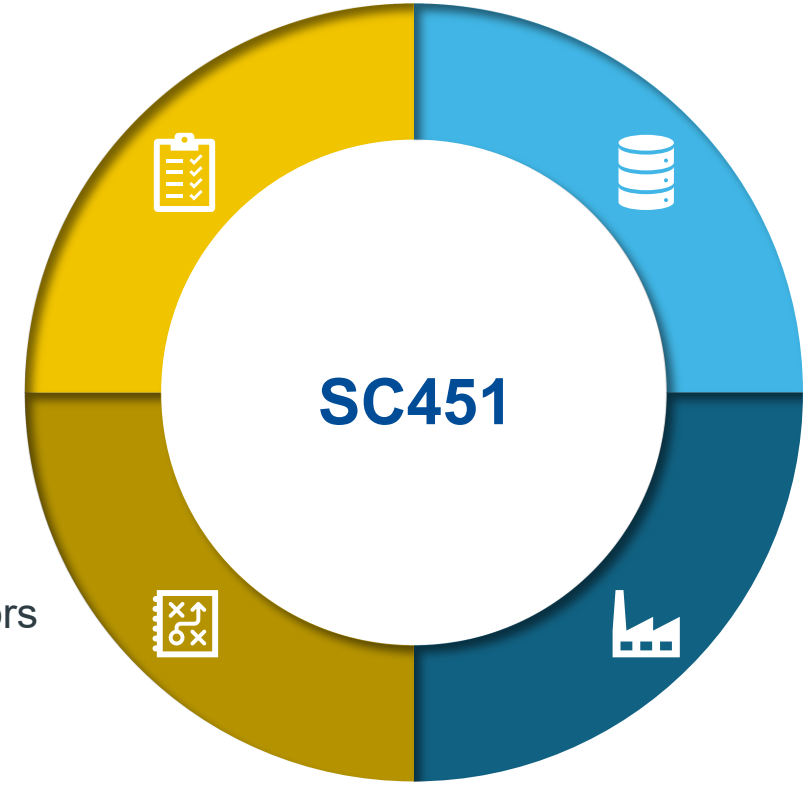
We made significant progress in the last 18 months in turning this exciting science into a medicine

04. Clinical planning

- Clinical sites selected and activation activities have begun
- Defined target population for clinical trial

03. Regulatory

- Dialogues with global regulators



01. Nonclinical package

- Comprehensive nonclinical testing started and nearing completion

02. Manufacturing

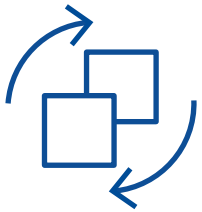
- Completed GMP master cell bank and working cell bank production
- Tech transfer to CDMOs ongoing
- Scale-up work

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SC451: next steps for value creation



Complete GLP toxicology study & non-clinical testing package



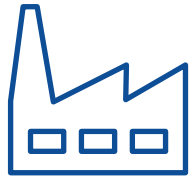
Complete GMP tech transfer & manufacture clinical trial material



File IND and equivalent in at least one other geography



Begin Phase 1/2 testing

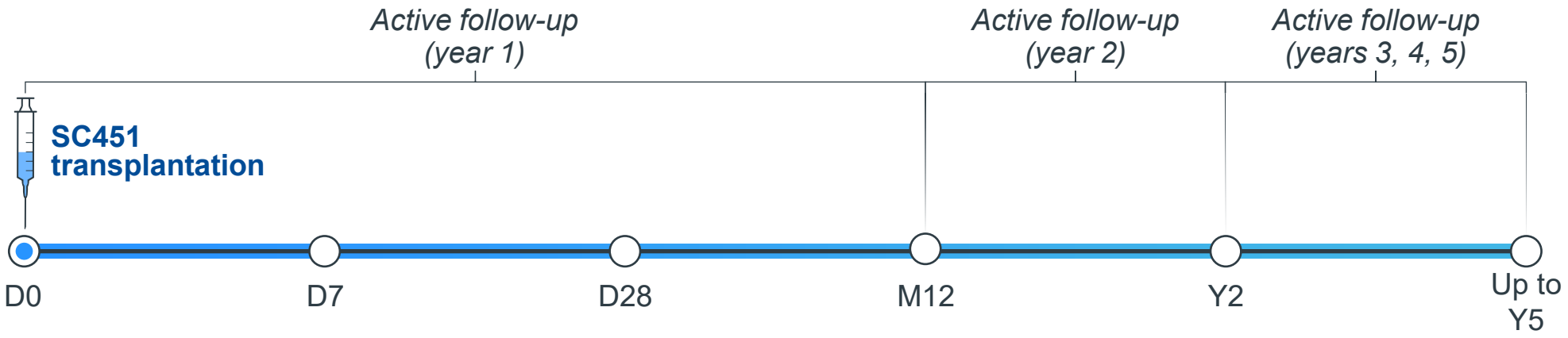


Make significant progress on commercial scale manufacturing process

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SC451 Phase 1/2 has clear definitions of success: safety, cell survival, and function

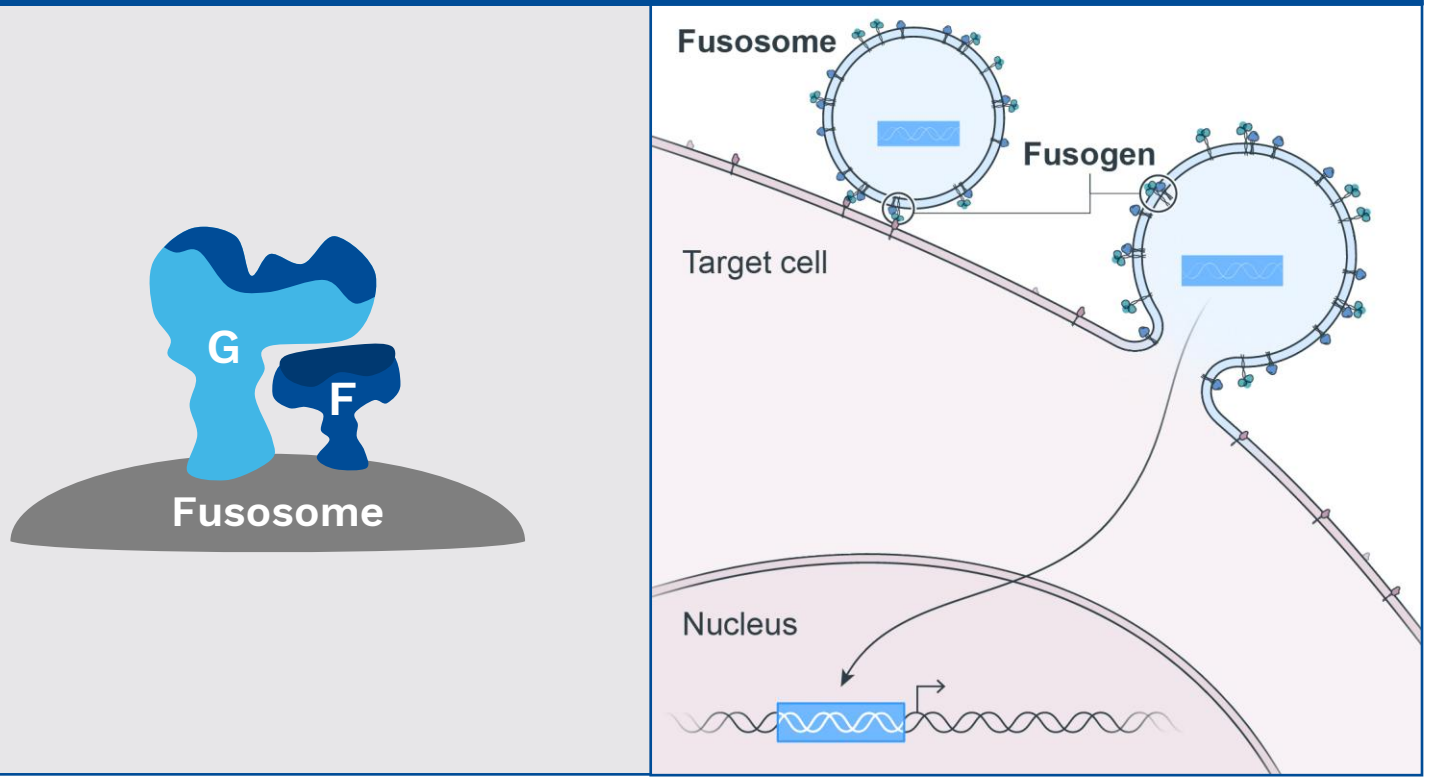
- Early immune evasion
- Endogenous insulin production evident within first month
- Potential for insulin independence within 3-6 months



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Fusosome technology: cell-specific *in vivo* delivery

Sana approach: Leverage insights from nature to deliver various payloads to specific cells without lymphodepletion



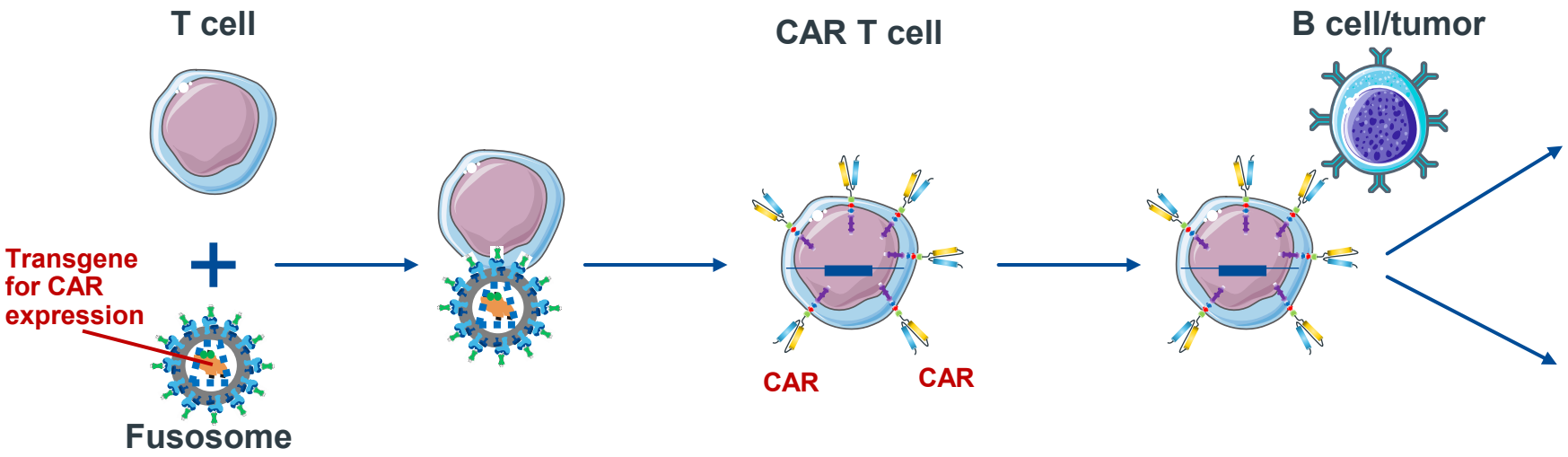
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Sana is pursuing *in vivo* engineering of CAR T cells using a fusosome vector system

Delivery
Transduction of CD8 T cells

Expression
Transgene integration & CAR expression

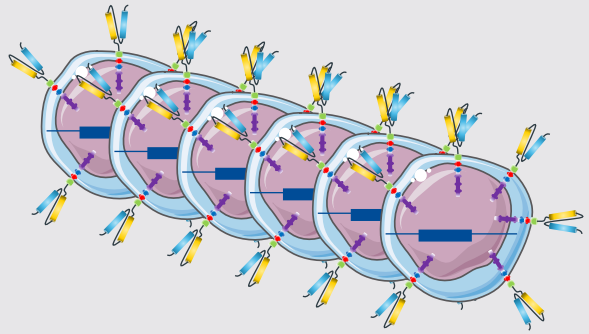
Function
Targeted cell killing



Target cell killing



CAR T cell amplification



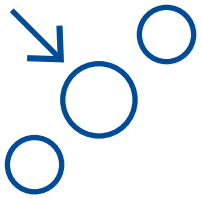
Eliminates conditioning chemotherapy

Simplifies manufacturing

Potential to make better CAR T cells

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Sana made two critical assumptions in developing this program



Cell specificity of delivery will be important

- Lowers risk of off-target toxicity
- Lowers immunogenicity risk, potentially improving safety, persistence, and ability to re-dose
- Improves manufacturability



Integration into T cell DNA is important

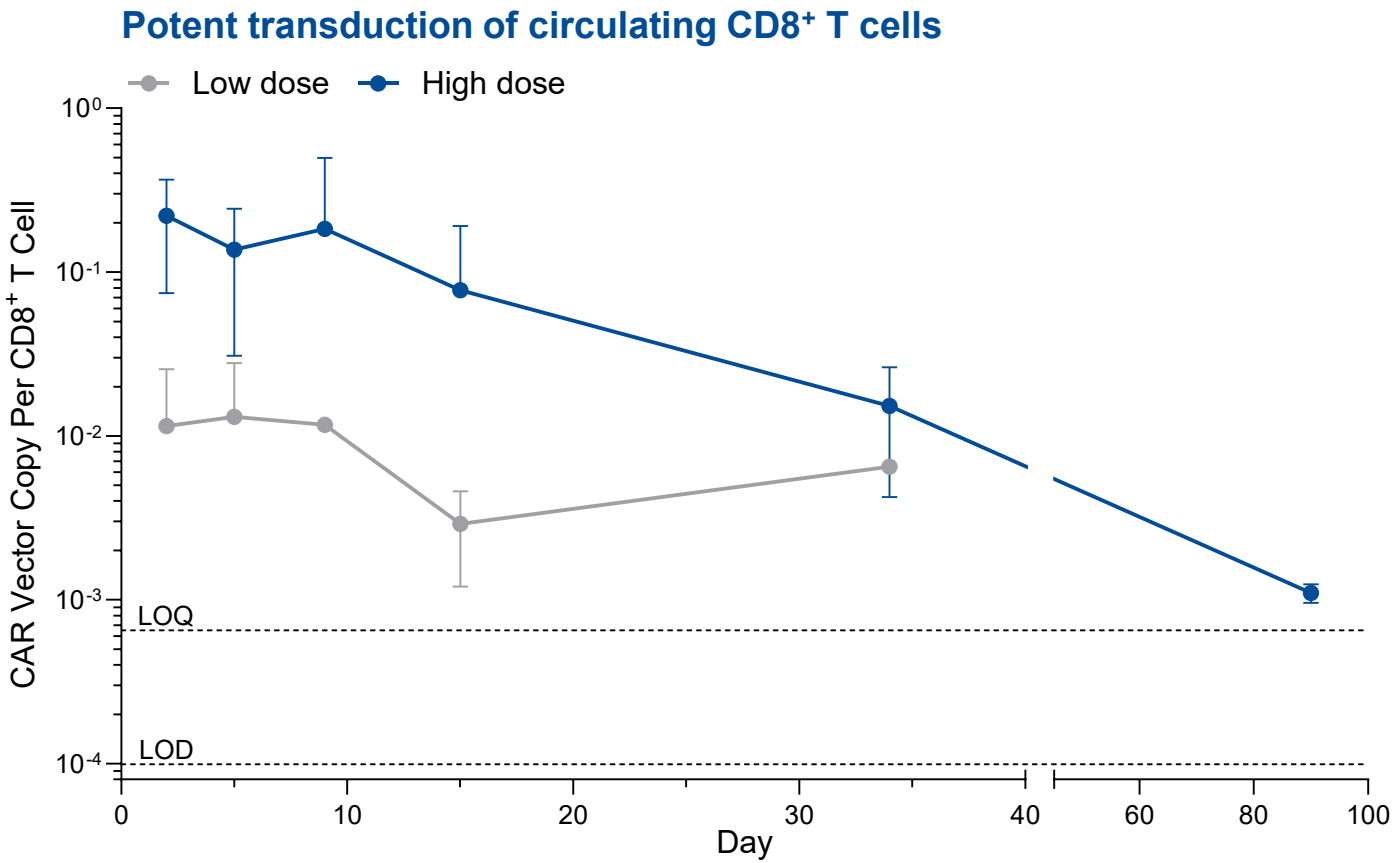
- CAR T cells typically undergo multi-logarithmic expansion inside the patient in order to clear target cells
- Integrated DNA replicates with cell division; mRNA does not

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GLP Tox Study: SG299 leads to potent transduction of circulating CD8+ cells (~15-20%)

4 NHP at each dose received single injection

- Fusogen has cross-reactivity with NHP CD8
- CD19 CAR does not cross react with NHP CD19
- Therefore, excellent model for PK, but not PD



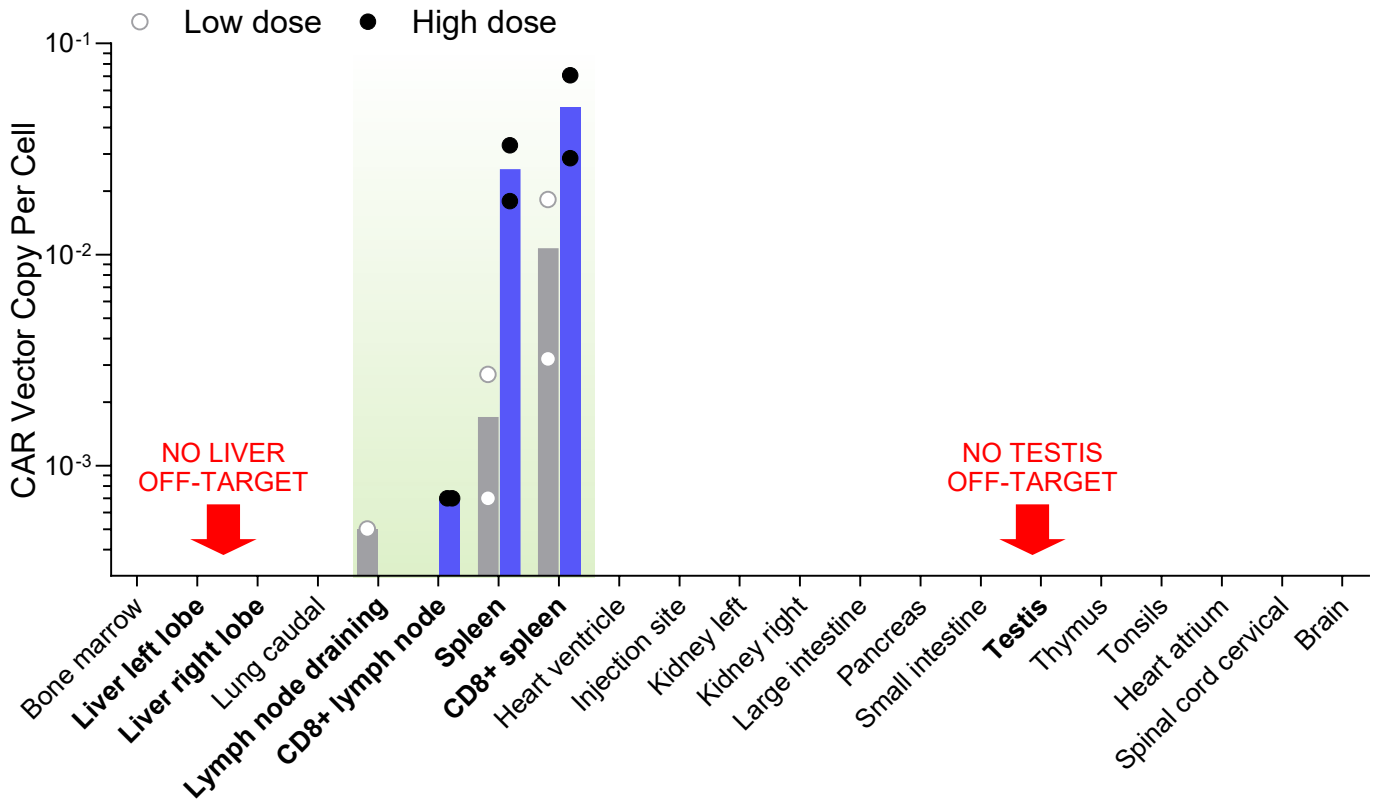
Abbreviations: LOD, limit of detection; LOQ, limit of quantification; PK, pharmacokinetics; PD, pharmacodynamics.

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GLP Tox Study: SG299 is specific for CD8+ cells; no transduction detected in hepatocytes or gonadal tissue

4 NHP at each dose received single injection

VCN is a sensitive marker for transduction



Abbreviations: VCN, vector copy number.

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Next generation: Improved the platform to increase potency and probability of success

***Where we were*:**

CD8 T cell transduction with high on-target specificity

T cell restriction factors identified as limiting potency in resting T cells

***What we did*:**

Overcome restriction via novel compositions

Minimize CAR surface expression to decrease immunogenicity risk

***Where we are now*:**

Potent transduction of resting T cells *in vivo* resulting in CAR T cells that expand and deplete B cells without lymphodepletion

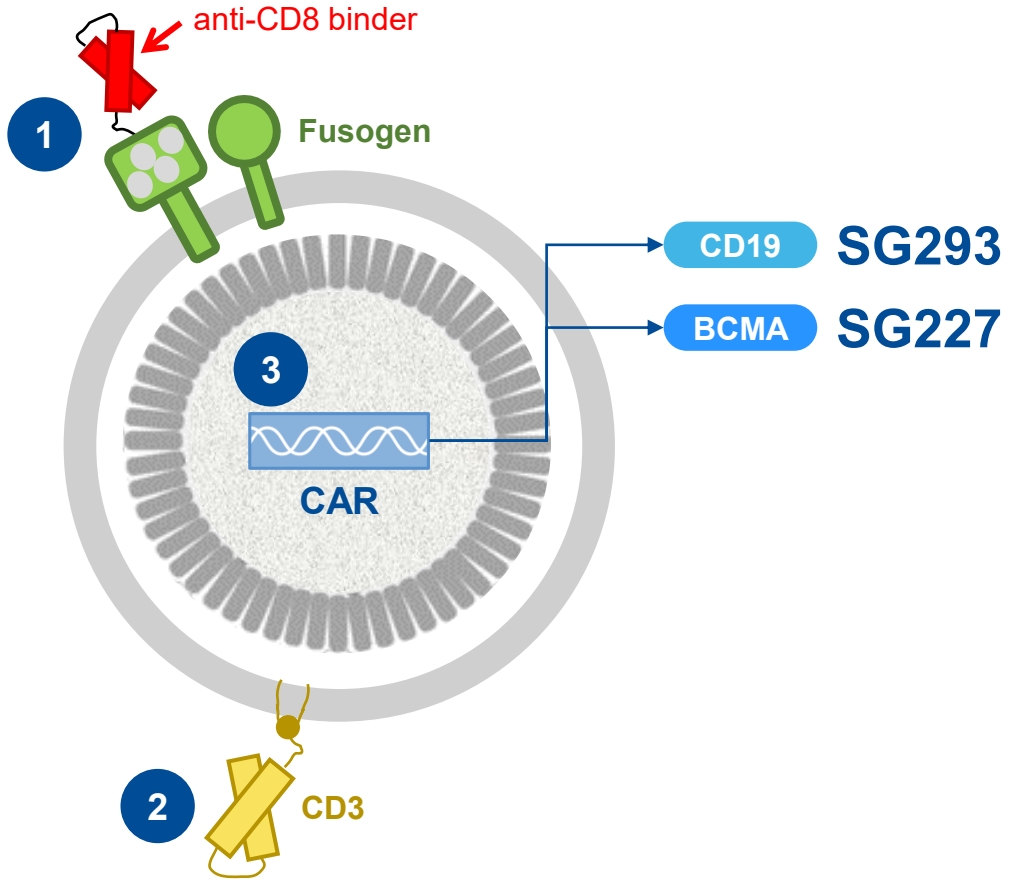
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SG293 and SG227: next generation *in vivo* CAR Ts with improved potency and manufacturability

1. **Novel fusogen** to increase gene delivery and reduce dose, while maintaining high specificity

2. **Incorporates an activation factor on the vector** to increase CAR T cell expansion and function

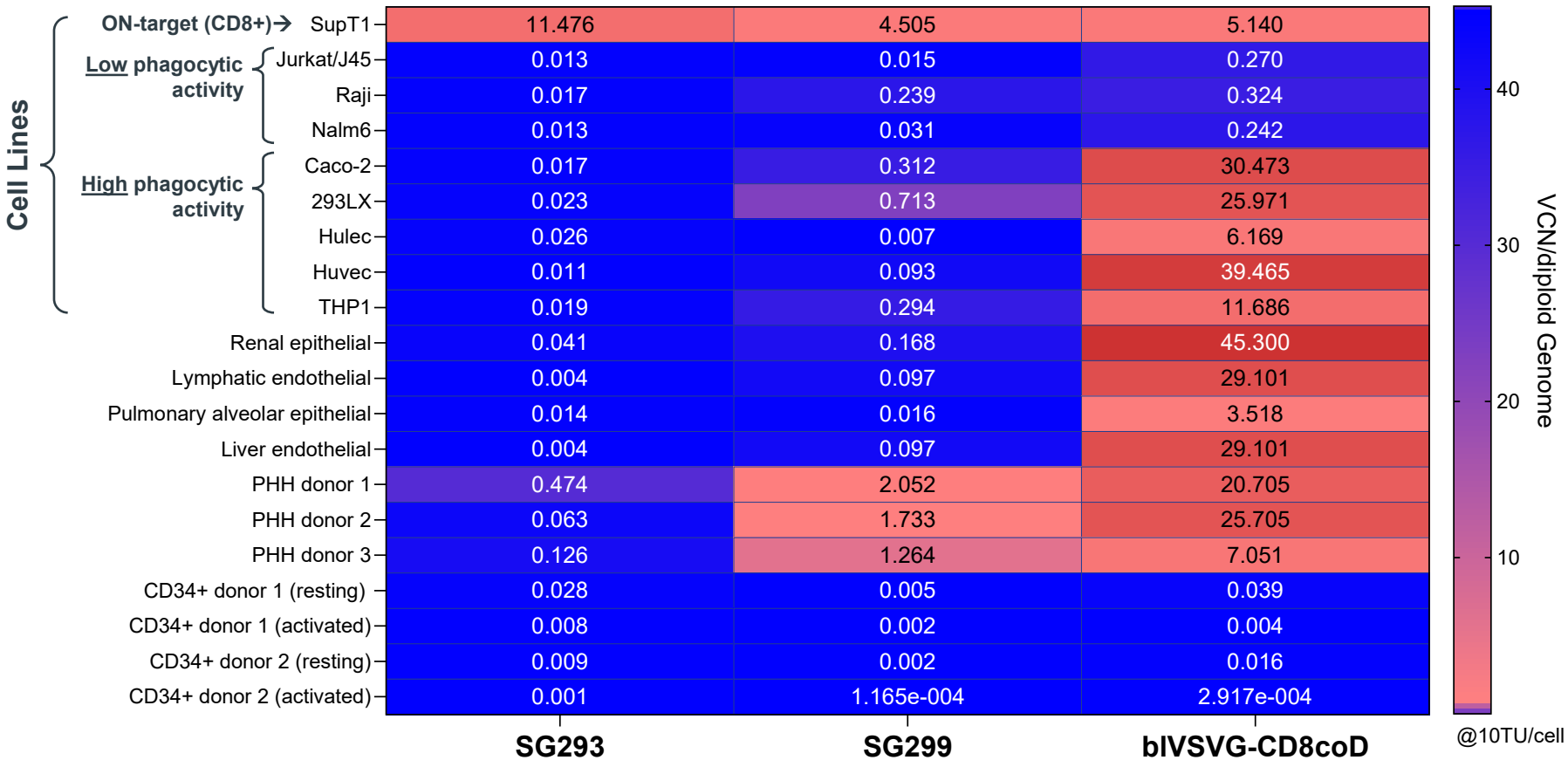
3. **Reduced CAR on vector particle to** reduce immunogenicity and improve manufacturability



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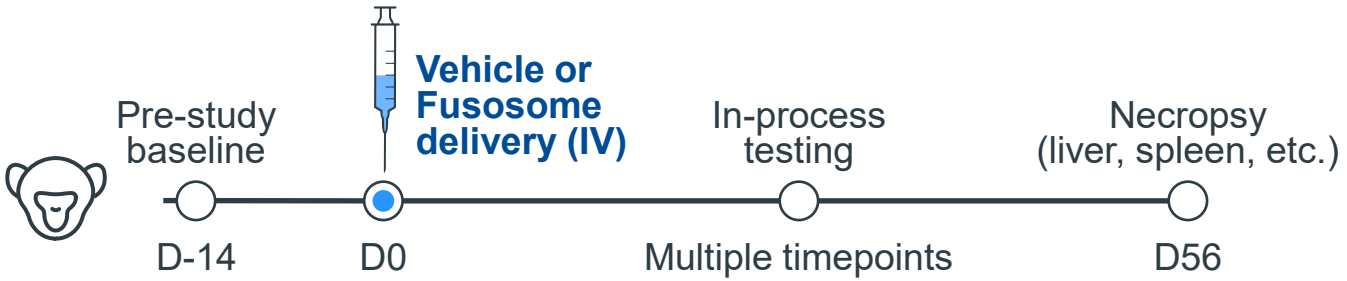
SG293 incorporates novel fusogen with high specificity *in vitro*

SG293 shows specificity for on-target vs. off-target cells *in vitro*
compared to targeted VSV-G fusogen



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NHP study explored the efficacy, tolerability, and biodistribution of SG293 surrogate *in vivo*



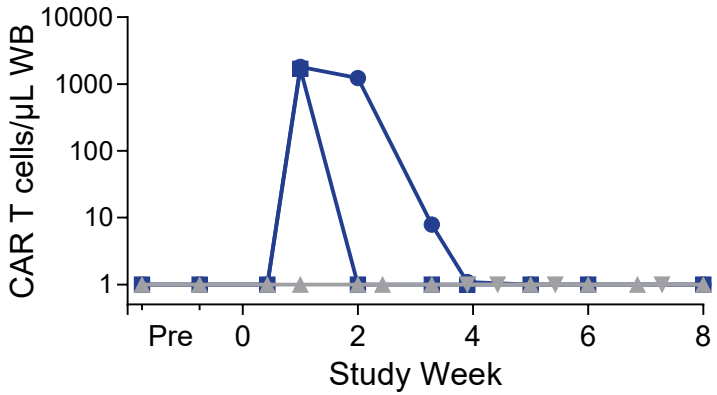
Study assessment overview

- General safety endpoints
  - Clinical observations
  - Body weight and temperature measurements
  - Clinical pathology
  - Neurological assessment
- CAR+ T cells in circulation
- B cells in circulation
- Lymph node biopsy (Day 21)
- Necropsy (Day 56)

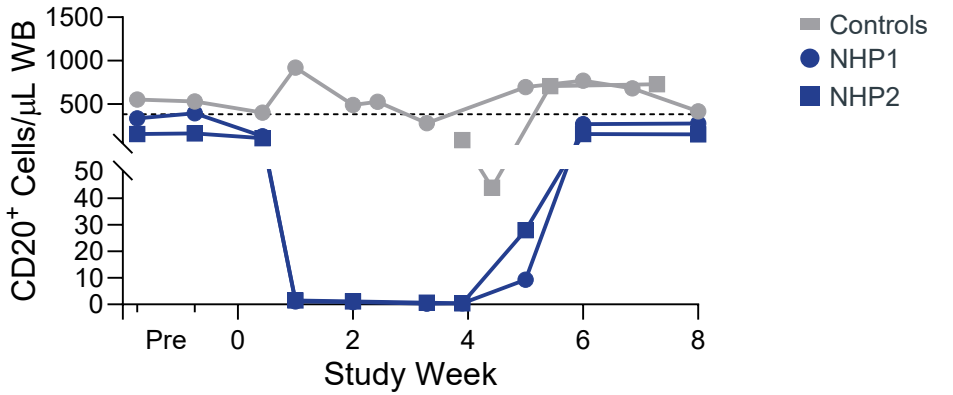
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Significant *in vivo* biologic activity demonstrated in NHP with SG293 surrogate

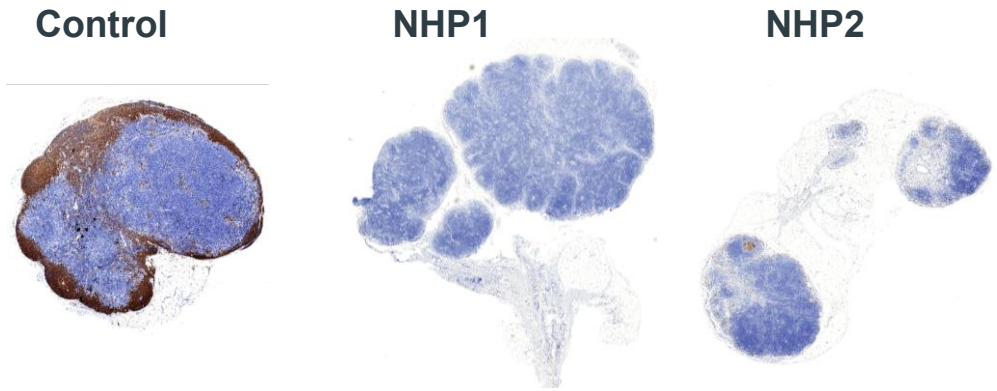
Significant CAR T expansion in the blood



Complete depletion of circulating B cells

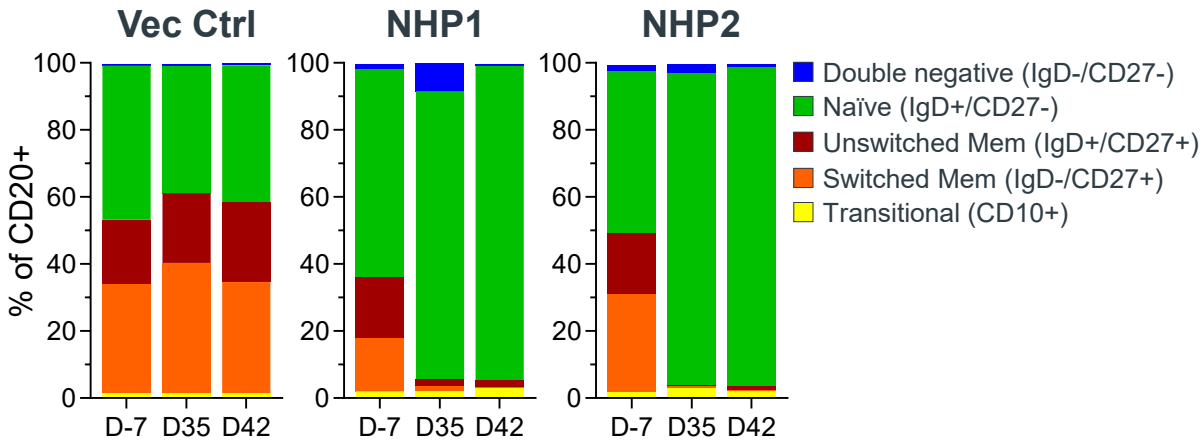


Lymph nodes at Week 3



BLQ: Below limit of quantitation

Evidence of "reset" when B cells return



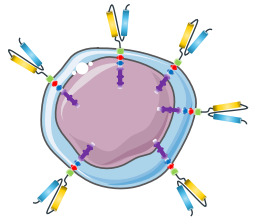
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Sana's fusogen platform has the potential for multiple best-in-class therapies



Recent progress creates potential for best-in-class *in vivo* CAR T cell platform



Platform can be readily expanded to other targets



First SG293 trial for patients with non-Hodgkin lymphoma

- With early safety and efficacy data, potential to move rapidly into autoimmune disease with SG293 and multiple myeloma with SG227

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Sana: next 12 months can be transformative

Type 1 diabetes: a disease in need of better alternatives

- Scientific validation that a functional cure is possible
- SC451 assembles all components into a scalable platform
- 2026: Goal is to file IND & start Phase 1/2 trial
- Potential for early clinical proof of concept:
  - Immune evasion
  - Endogenous insulin production
  - Glucose control without exogenous insulin

Fusogen platform has potential for best-in-class profile for multiple therapies

- SG293: potential first-in-human NHL data
- SG227: potential to begin clinical study in multiple myeloma

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Thank You

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