MAKING CELL THERAPIES ACCESSIBLE TO ALL™

FT839: A Multi-Antigen Targeting Off-the-Shelf Dual-CAR T Cell for the Treatment of Pathogenic B and T Cells in Autoimmune Diseases

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Disclosures

- Fate Therapeutics employee and stockholder
- Stockholder: Vertex Pharmaceuticals, Roche Holdings ADR, Jazz Pharmaceuticals, Abbvie, Gilead Sciences, Artiva Biotherapeutics, Cabaletta Bio, Crispr Therapeutics, Iovance Biotherapeutics

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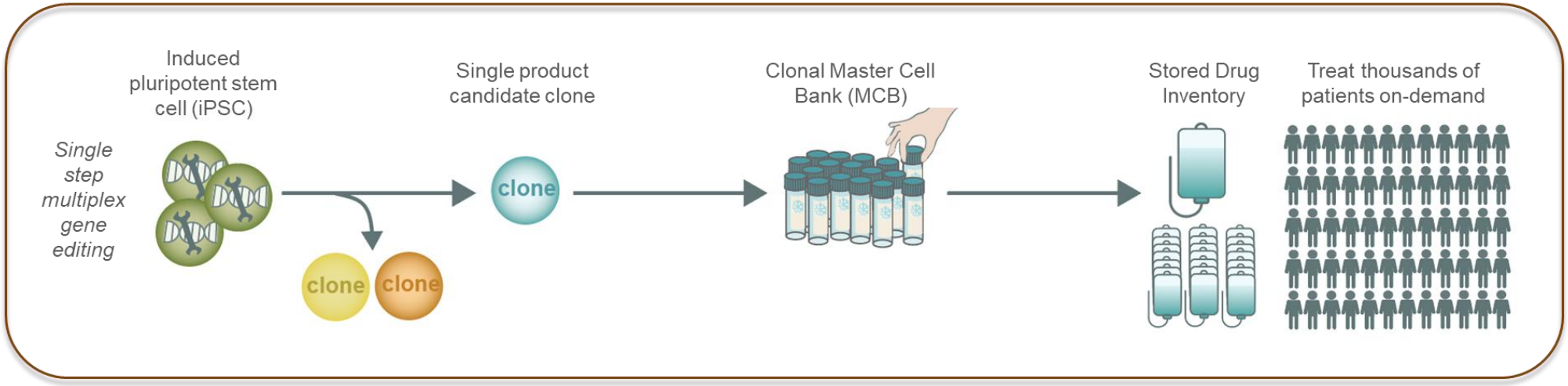
Induced Pluripotent Stem Cells: Accessible Cell Therapy



Unique Off-the-Shelf Manufacturing Process for On-Demand Delivery

Single-Step one-time genetic engineering

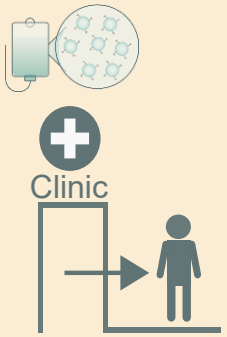
Scalable manufacturing

Uniform product profiles

Off-the-Shelf CAR T cells
Cryopreserved inventory for on-demand use and broad patient reach

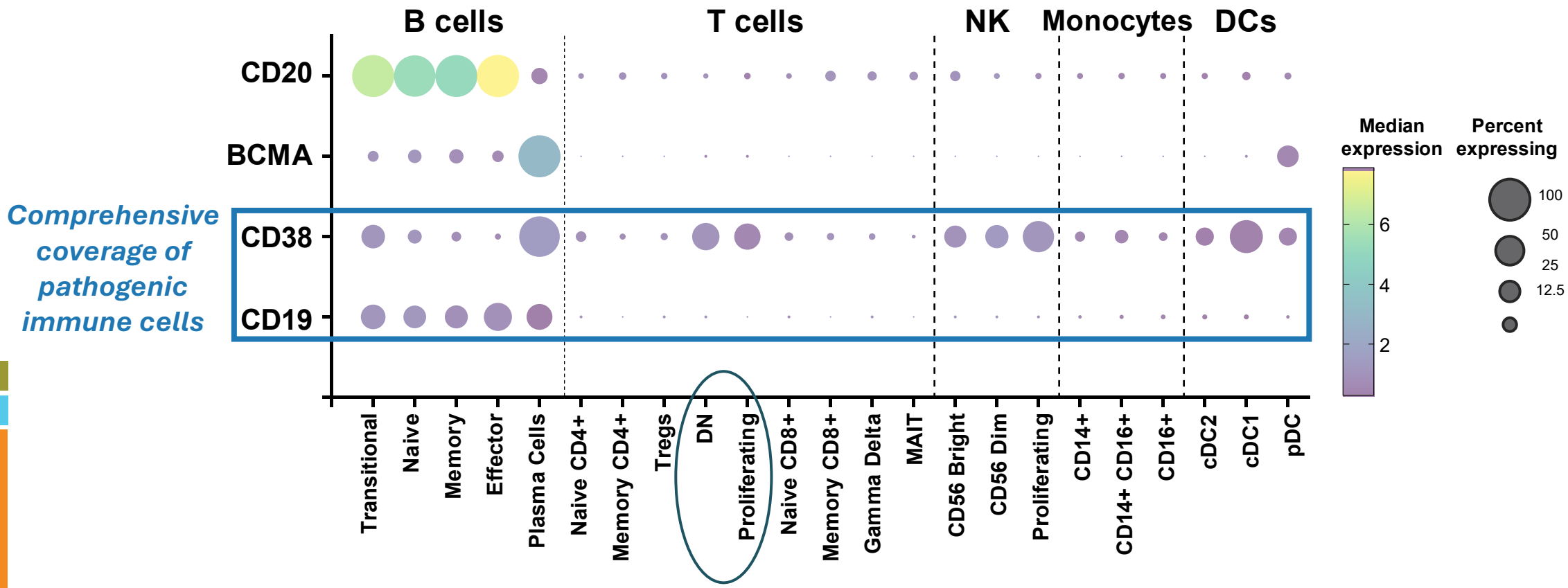
Outpatient Administration Enabled

- ✓ Ready when patients need it
- ✓ Designed for outpatient use
- ✓ Less intensive conditioning chemotherapy
- ✓ Repeat dosing is feasible



Autoimmune Diseases Are Driven by Multiple Immune Cell Types

Targeting B Cell Lineage (CD19) and Activated Immune Cells (CD38) for a Comprehensive Approach to Treat Autoimmune Diseases



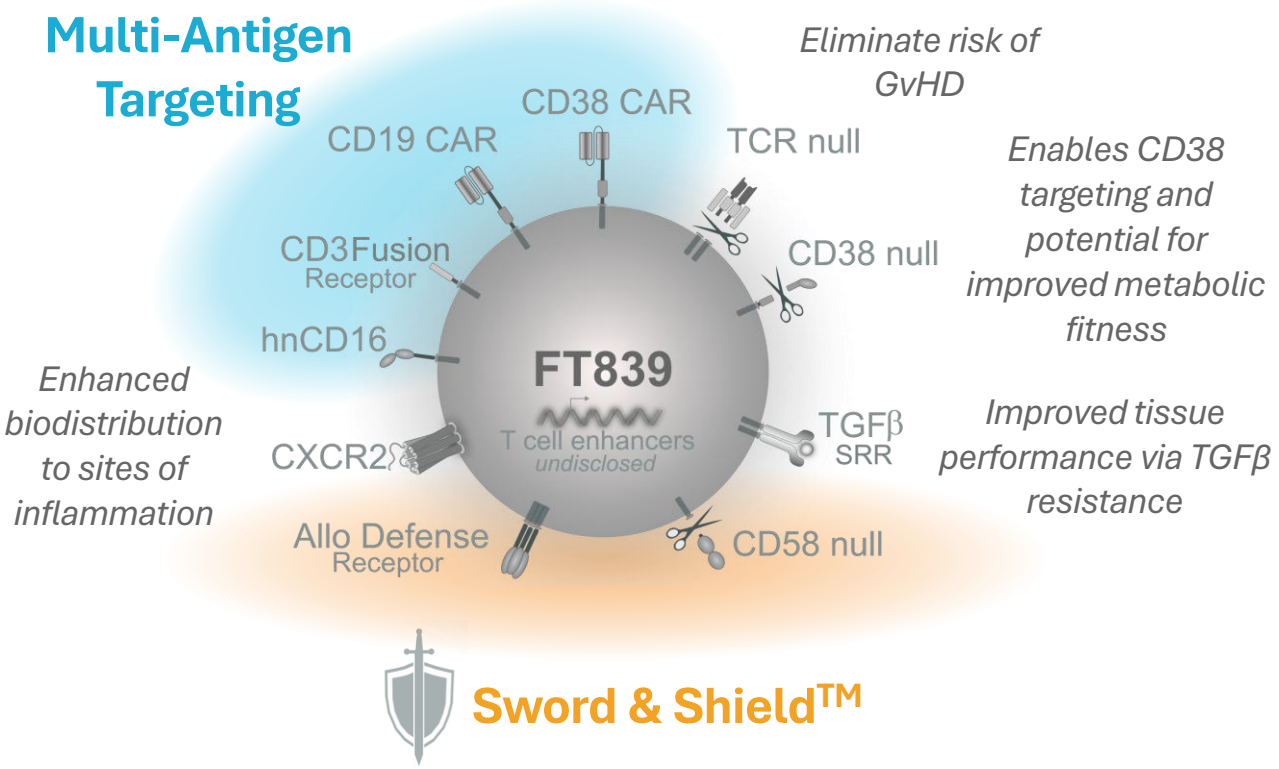
scRNA-seq from 108 healthy donors

Source: Human Immune Health Atlas

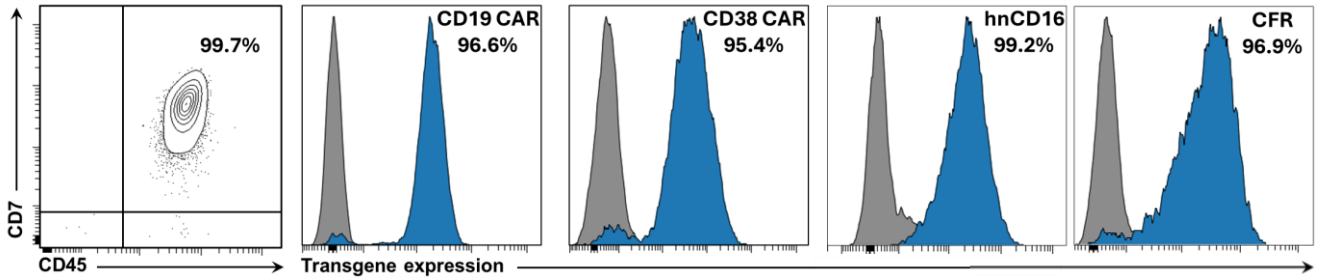
Gong et al., *Nature*. 2025 ; 648:696-706

FT839: Off-the-Shelf Anti-CD19/CD38 Dual CAR T-Cell Product Candidate

ADR-armed CAR T cells target select immune cell subsets to unlock multi-disease therapy potential



Uniquely uniform multiplexed-engineered CAR T-cell drug product

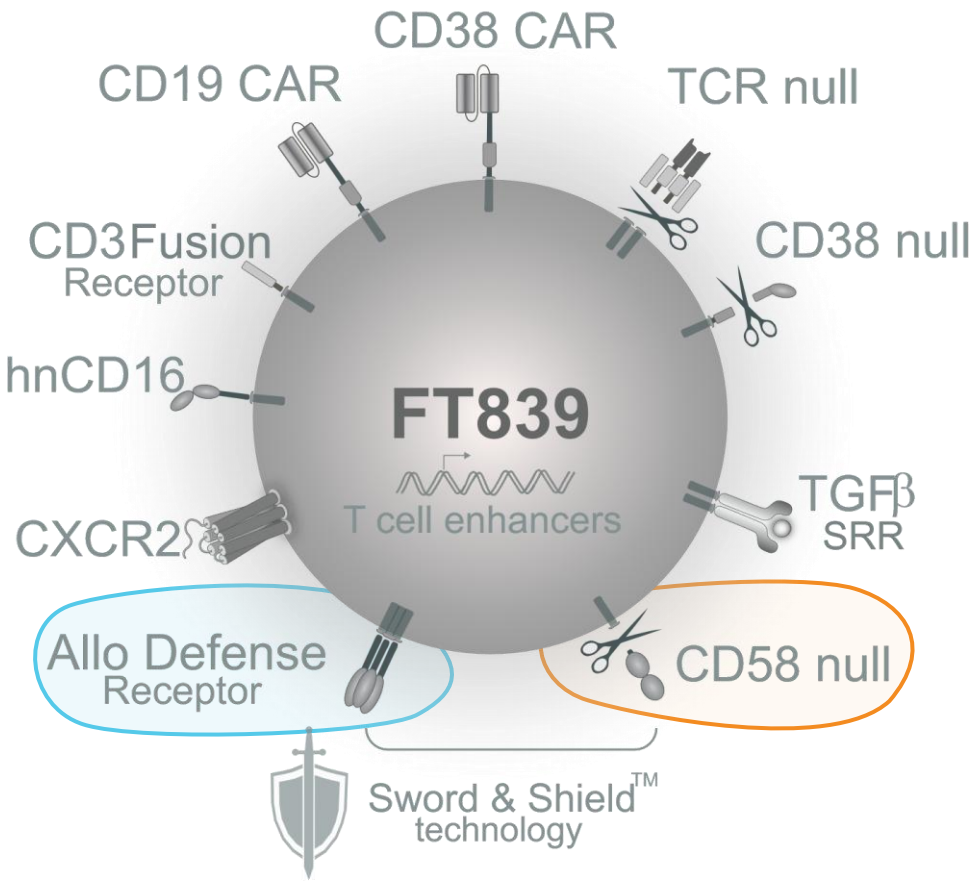


Multi-Antigen Targeting

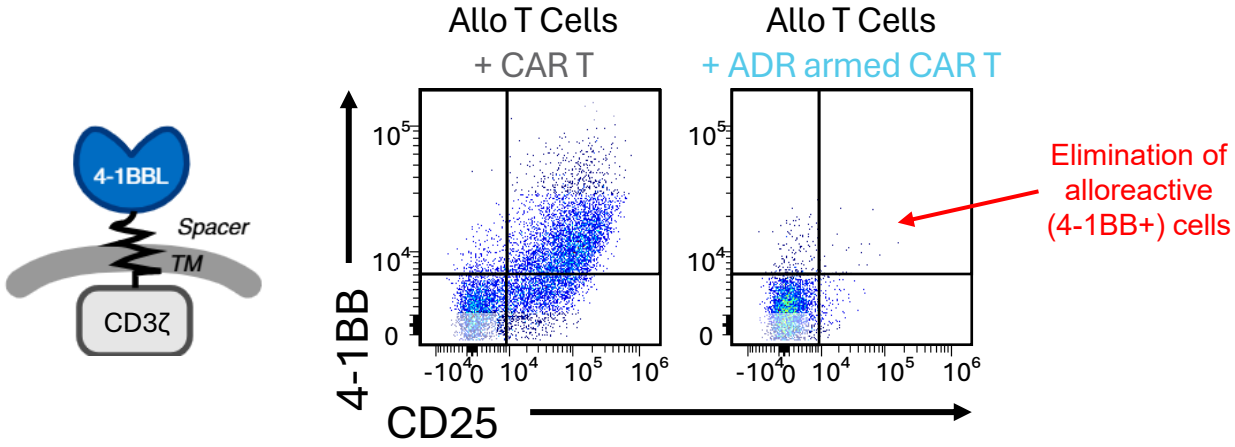
- ***CD19 CAR*:** Safe and effective B cell elimination
- ***CD38 CAR*:** To eliminate activated and/or senescent immune cells
- ***hnCD16*:** Additional antigen/target cell subset targeting in combination with therapeutic monoclonal antibodies
- ***CD3 Fusion Receptor (CD3FR)*:** Additional antigen / target cell subset targeting in combination with T cell engagers
- ***Sword & Shield™ :** Reduce requirements for conditioning chemotherapy*

Sword & Shield – Eliminating Conditioning Chemotherapy

Allo defense receptor and knockout of CD58 to suppress host vs product allogeneic responses

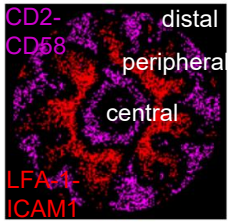


ADR eliminates 4-1BB+ alloreactive T cells

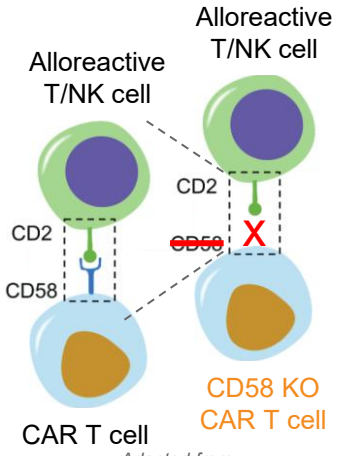


CD58 KO restricts stable immune synapse formation

Immune synapse



PMID: 34622155

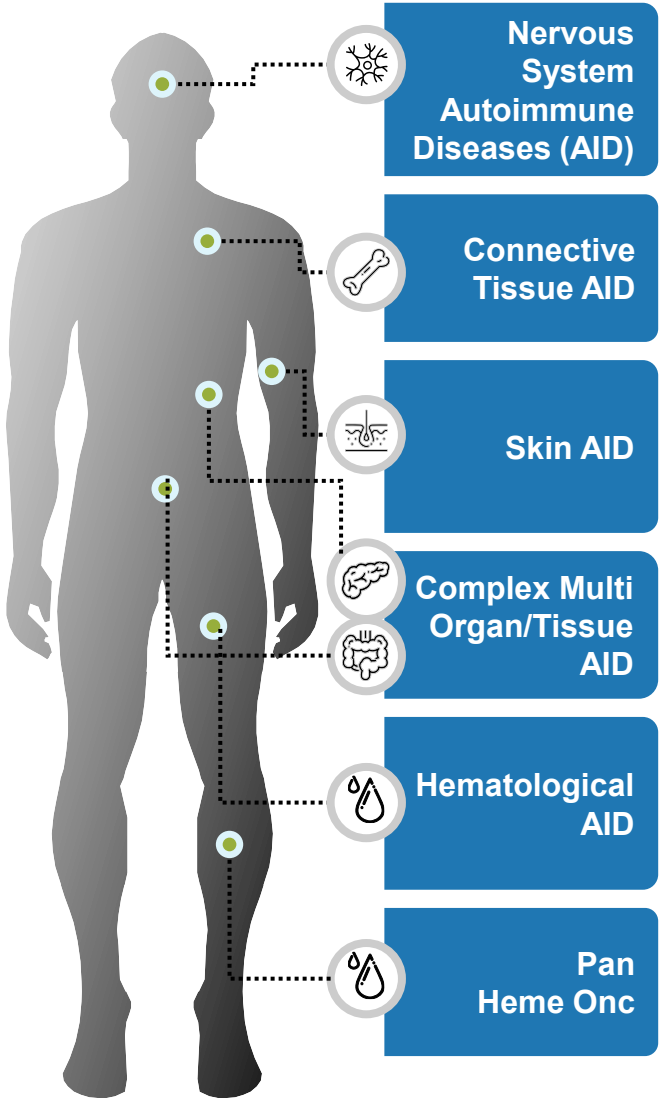


Adapted from
PMID: 34168659

Eliminates CD58-CD2 *costimulation and adhesion interaction between target and effector cells*

FT839 Broadly Eliminates Aberrant Immune Cell Types

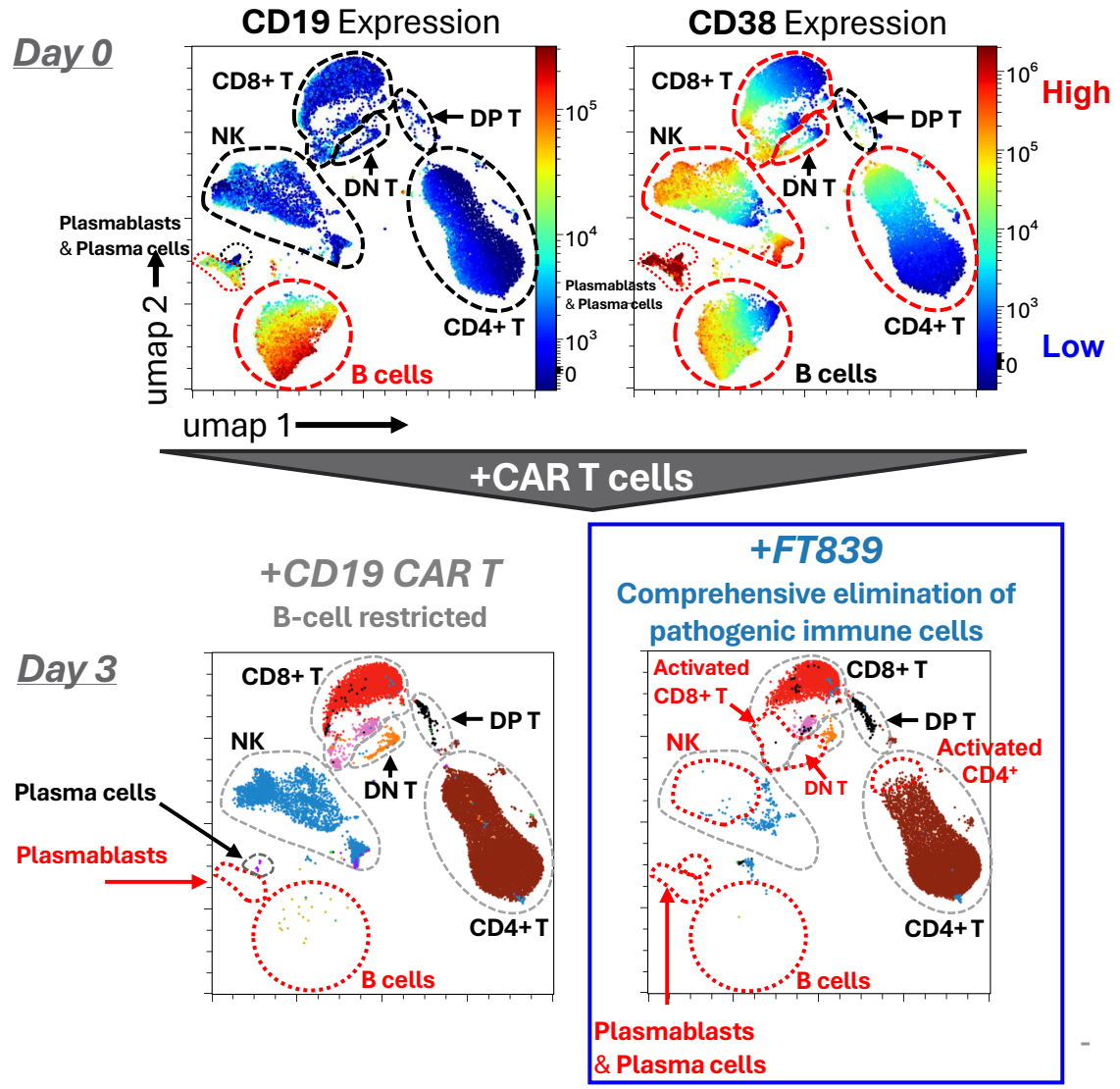
CD19 and CD38 CARs selectively eliminate B lineage cells and activated immune cells



Possible Disease Indications Include:

- Rheumatoid Arthritis (RA)
- Systemic Sclerosis (SSc)
- Vasculitis (AAV)
- Myositis (IMM)
- Systemic Lupus Erythematosus (SLE)
- Type 1 Diabetes (T1D)
- Multiple Sclerosis (MS)

FT839 eliminates pathogenic immune cells in PBMC co-cultures

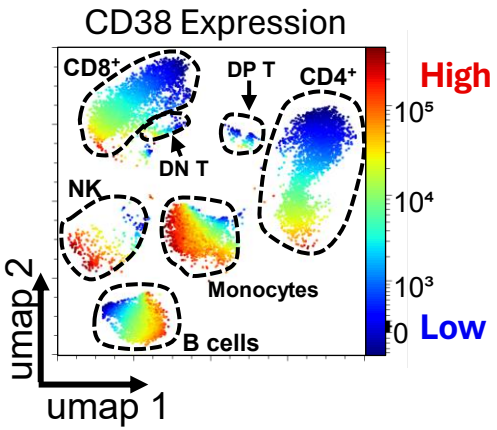


FT839 Maintains Comprehensive Elimination of Activated Immune Cells in RA Patient Sample While in Allogeneic Setting

Fate THERAPEUTICS

Rheumatoid Arthritis PBMCs

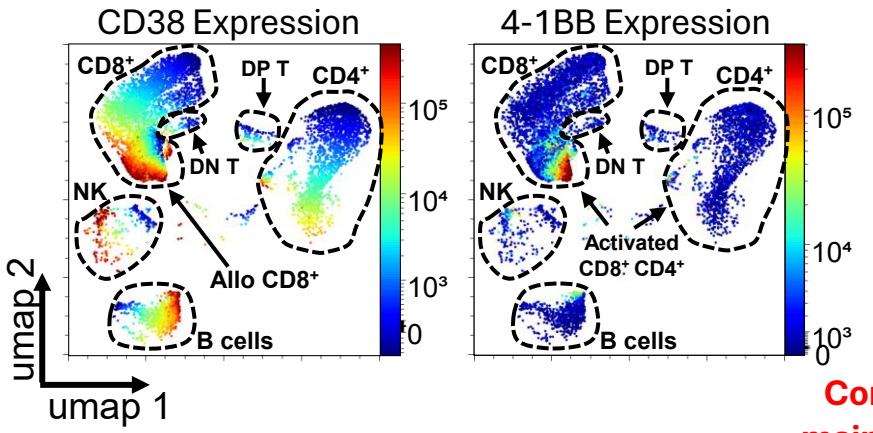
Day 0



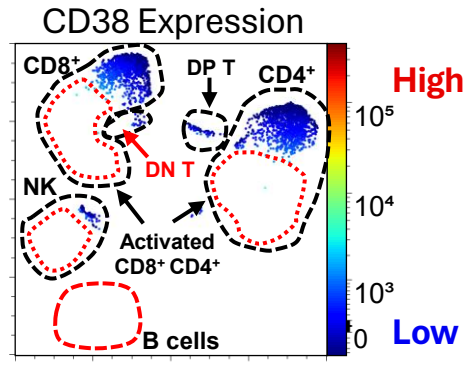
+ CAR T cells
7 days

Day 7

RA PBMCs + No Sword/Shield CAR T



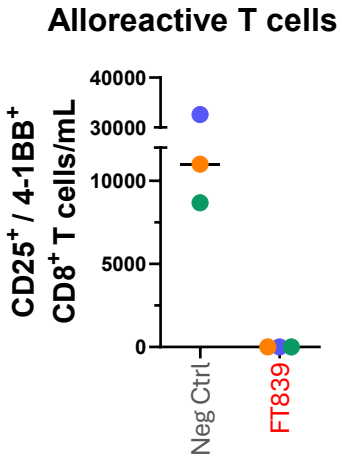
RA PBMCs + FT839

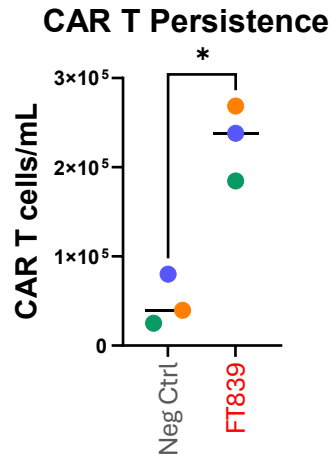


Comprehensive elimination maintained in allogenic setting

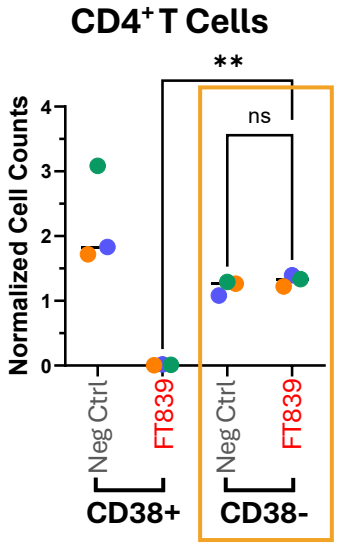
Sword and Shield prevents the emergence of alloreactive T cells

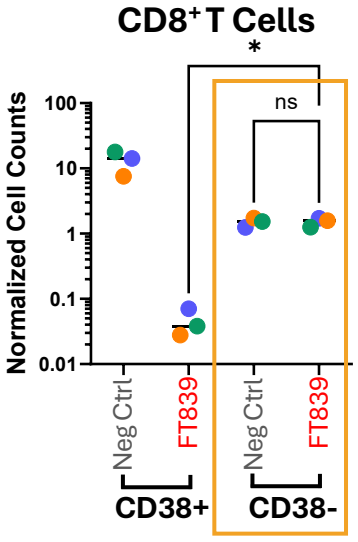
PBMC donor
- Healthy
- RA
- SLE





*Activated (CD38+) T cells are **selectively** eliminated*





Multi-antigen Targeting in Combination with T Cell Engagers and mAbs

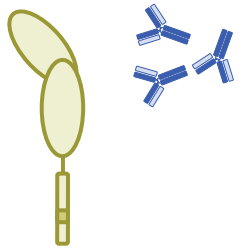
Customizable pairing with clinically approved biologics extends disease cell targeting capabilities

hnCD16: high affinity, non-cleavable CD16a

Enables synergistic pairing with standard-of-care mAbs

High affinity
(158V/V)[1]

Non-cleavable
(~~ADAM17~~)[2]

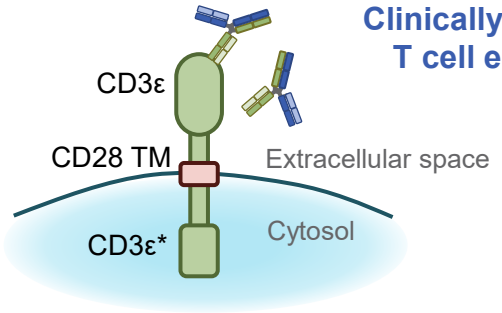


CD3FR: CD3ε fusion receptor

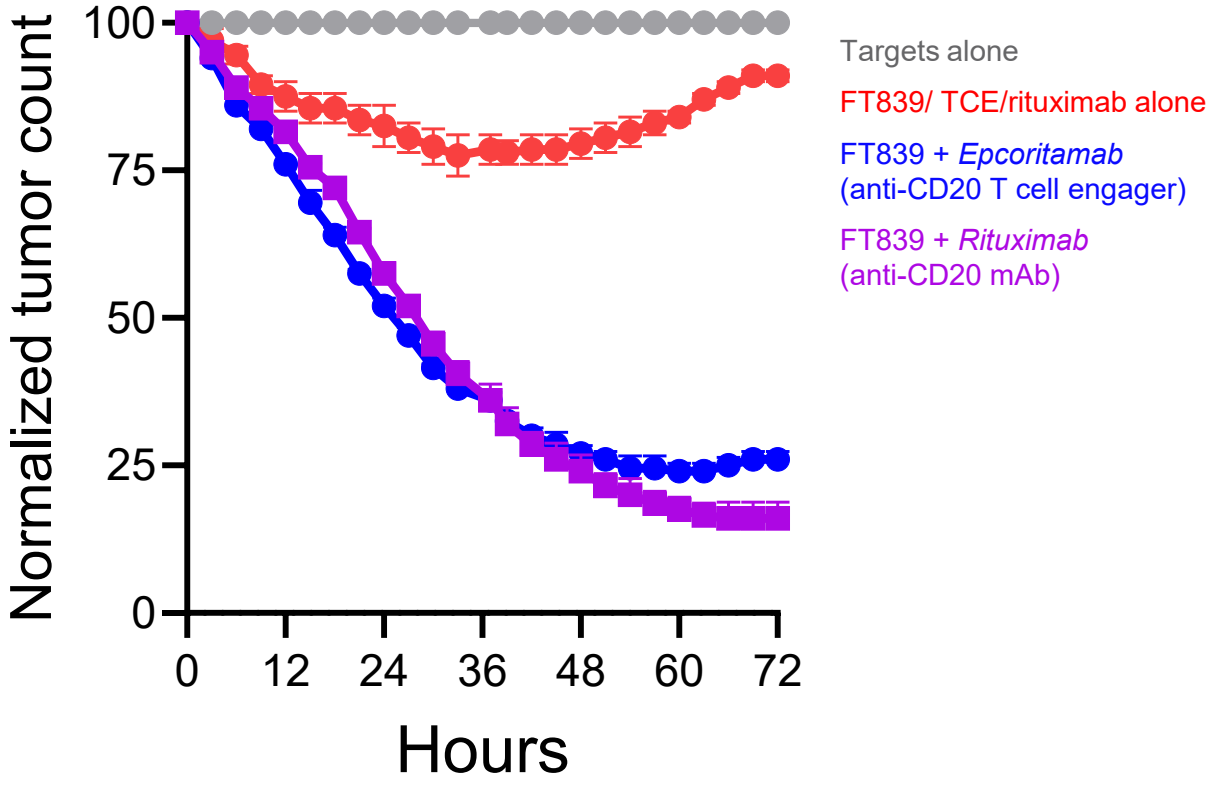
Enables combination with TCEs without a TCR

Standard of care mAbs

Clinically approved T cell engagers



Long-term Cytotoxicity Assay with CD19^{KO}CD38^{KO} Transformed Immune Cell Line (JEKO-1)

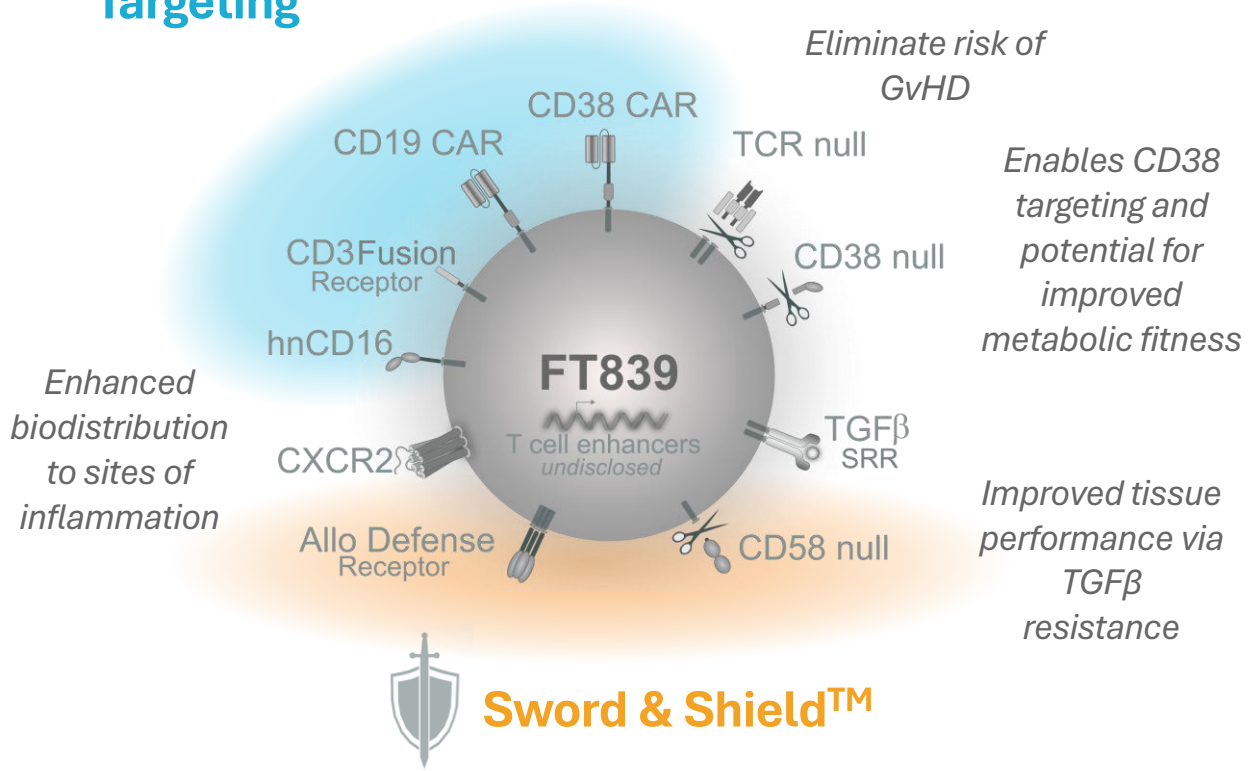


With the combination of anti-CD20 TCE or mAb, FT839 is uniquely capable of targeting a CD19 and CD38 null transformed immune cell line

[1]Koene H et al. *Blood*. 1997; 90:1109-14
[2]Jing Y et al. *PLoS One*. 2015; 10, e0121788

Summary: FT839 Anti-CD19/CD38 Dual CAR T-Cell Product Candidate

Multi-Antigen Targeting



Multi-Antigen Targeting

- CD19 CAR, CD38 CAR, hnCD16, CD3 Fusion Receptor (CD3FR) with potential for
  - Use in complex autoimmune diseases involving multiple cell types
  - Deeper B cell depletion
  - Ability to synergize with monoclonal antibodies (such as rituximab) or T cell engagers

Stealth Technology

- Sword & Shield™ for resistance to alloreactive T cells
  - Reduced requirement for conditioning chemotherapy

Platform Advantage

- iPSC allows for uniform quality, mass production and off the shelf availability, increasing accessibility
- Potential for future outpatient administration

Phase 1 study planned in autoimmunity

Acknowledgements

- Alex Garcia
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