

KEY CHALLENGES



Current CAR-T cell therapies face logistical, manufacturing and clinical integration challenges

Complex and long manufacturing process (>14 days), with a long vein-to-vein time (>27 days).¹⁻²

Treatment delays and worsening of patient condition necessitating bridging therapy.

High relapse rates (around 50%) and low persistence due to prolonged T-cell expansion and preferential proliferation of differentiated T-cells rather than more persistent naïve and stem cell memory T cells, as well as antigen escape (loss of expression on cancer cells).³

High risk for toxicity: CRS: any grade 42–93%; grade 3 or worse 2–20% and ICANS: any grade 21–64%; grade 3 or worse 10–28%.⁴⁻⁶

NEXT-GENERATION CAR-T CELL THERAPY STRATEGIES

Improved manufacturing, efficacy, and durability

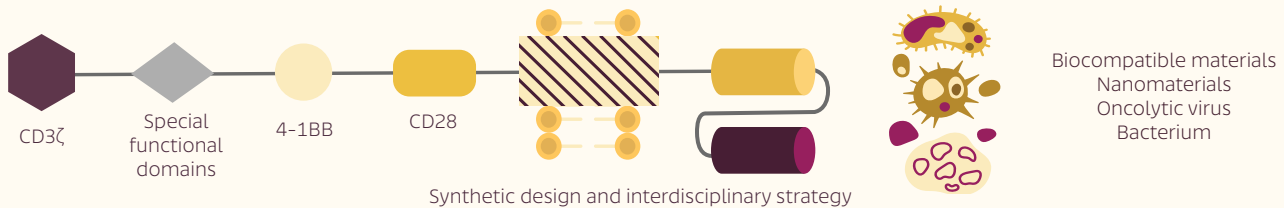
Rapid manufacturing platforms (<2 days) that enhance in-vivo T-cell expansion and preserve T-cell quality for greater persistence, and longer time to side effects.⁵

Decentralized manufacturing and automated manufacturing using a fresh, more viable product, to reduce vein-to-vein time (approximately 7 days and 13–15 days, respectively).⁷

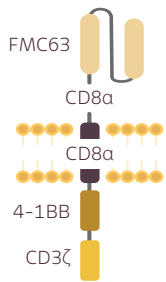
Dual antigen targeting to overcome antigen loss and improve T-cell persistence and efficacy.

Costimulatory domains to boost T-cell performance.

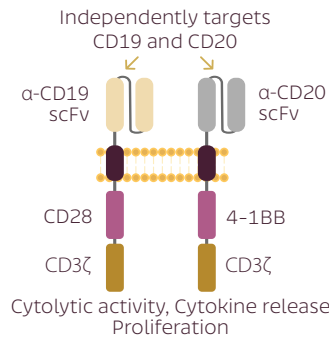
Allogeneic CAR-T cells, using donor cells for a quicker, off-the-shelf product



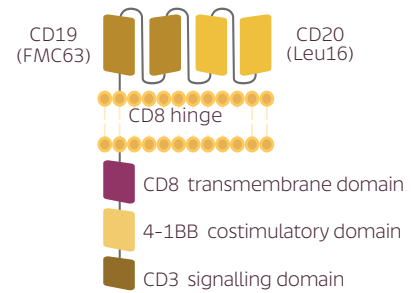
2025 CLINICAL DATA



Rapcabtagene autoleucl (phase 2)



KITE-753 (phase 1)¹⁰



Zamtocabtagene autoleucl (phase 2; DALY 2-EU study)⁸

CD-19-directed CAR-T therapy using a rapid manufacturing platform (T-Charge™)

Independent CD19/CD20-directed CAR-T therapy with dual costimulation of CD28 and 4-1BB, produced using a rapid manufacturing platform

Tandem CD19/CD20-directed CAR-T therapy with dual costimulation of CD28 and 4-1BB, produced using a fully automated system (CliniMACS Prodigy®) and administered as a fresh product

Setting: R/R DLBCL⁷

Setting: R/R LBCL

Setting: R/R LBCL versus R-GemOX

Dose: 12.5 x 10⁶ CAR-T cells per kg

Dose: 0.2 x 10⁶ CAR-T cells per kg

Dose: 2.5 x 10⁶ CAR-T cells per kg

Response CR: 65%; ORR: 88%

Response CR: 70%; ORR: 80%

Response CR: 54%; ORR: 72%

Toxicity	CRS	ICANS
Any grade	44%	8%
Grade ≥3	6%	5%
Median time to onset	8 days	13 days
Median duration	4 days	19 days

Toxicity	CRS	ICANS
Any grade	53%	11%
Grade ≥3	0%	0%
Median time to onset	6 days	10 days
Median duration	5 days	2 days

Toxicity	CRS	ICANS
Any grade	78%	11%
Grade ≥3	5%	1%
Median time to onset	2 days	10 days
Median duration	6 days	5 days

Setting: First-line, high-risk LBCL⁹

Dose: 12.5 x 10⁶ CAR-T cells per kg

Response CR: 74%; ORR: 89%

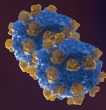
Toxicity	CRS	ICANS
Any grade	49%	8%
Grade ≥3	0%	2%
Median time to onset	11 days	15 days
Median duration	6 days	17 days

ABBREVIATIONS

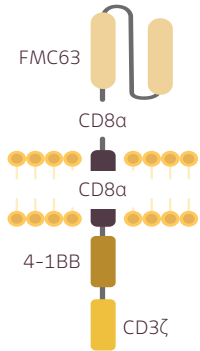
R/R: Relapsed/Refractory; DLBCL: diffuse large B-cell lymphoma; CR: complete response rate; ORR: objective/overall response rate; CRS: cytokine-release syndrome; ICANS: immune effector-cell neurotoxicity syndrome

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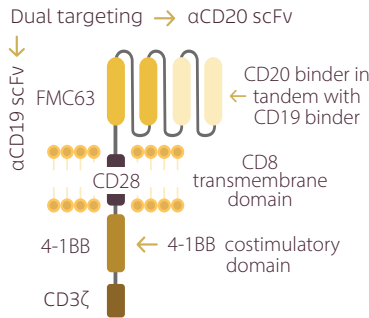
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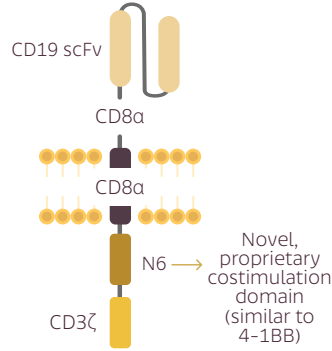
2025 CLINICAL DATA



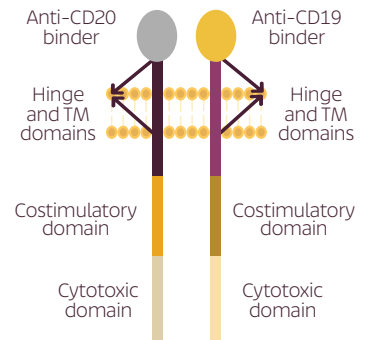
GLPG5101
(phase 1/2; ATALANTA-1)¹¹



Prizlo-cel
(JNJ-90014496; phase 1b)¹²



Azer-cel combined with interleukin (IL)-2
(phase 1/1b)¹³



Lucar-G39D (phase 1)¹⁴

CD-19-directed CAR-T therapy, using a closed, fully automated decentralized manufacturing system and administered as a fresh product

Setting: R/R DLBCL

Dose: 50 x 10⁶, 110 x 10⁶, 250 x 10⁶ CAR-T cells

Response CR: 54%; ORR: 69%

Toxicity	CRS	ICANS
Any grade	43%	20%
Grade ≥3	2%	2%
Median time to onset	7 days	12 days
Median duration	3 days	2 days

Tandem CD19/CD20-directed CAR-T therapy with dual costimulation of CD28 and 4-1BB

Setting: R/R LBCL

Dose: 2.0 x 10⁶ CAR-T cells per kg, 150 x 10⁶ CAR-T cells, 75 x 10⁶ CAR-T cells

Response CR: 75%; ORR: 91%

Toxicity	CRS	ICANS
Any grade	80%	16%
Grade ≥3	4%	8%
Median time to onset	3 days	3 days
Median duration	5 days	17 days

Allogeneic CD19-directed CAR-T therapy combined with subcutaneous IL-2 for exogenous armoring

Setting: R/R LBCL; relapsed after autologous CAR-T therapy

Dose: 500 x 10⁶ CAR-T cells plus IL-2 at 1 x 10⁶ IU

Response CR: 44%; ORR: 81%

Toxicity	CRS	ICANS
Any grade	72%	17%
Grade ≥3	0%	11%
Median time to onset	3 days	5 days
Median duration	2 days	1 day

Allogeneic, independent CD19/CD20-directed gamma delta CAR-T cell therapy with dual costimulation

Setting: R/R B-cell non-Hodgkin Lymphoma

Dose: 30 x 10⁶, 100 x 10⁶, 200 x 10⁶, 400 x 10⁶, 600 x 10⁶, 800 x 10⁶ CAR-T cells

Response CR: 38%; ORR: 75%

Toxicity	CRS	ICANS
Any grade	56%	0%
Grade ≥3	13%	0%
Median time to onset	3 days	
Median duration	5 days	

KEY INSIGHTS

Next-generation CAR-T cells show the potential to:



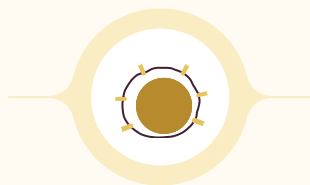
Offer rapid treatment



Simplify production and widen applicability



Provide a better-quality product



Enhance T-cell persistence and improve response rates, without significantly increasing toxicity



Delay time to onset of serious side effects facilitating outpatient treatment