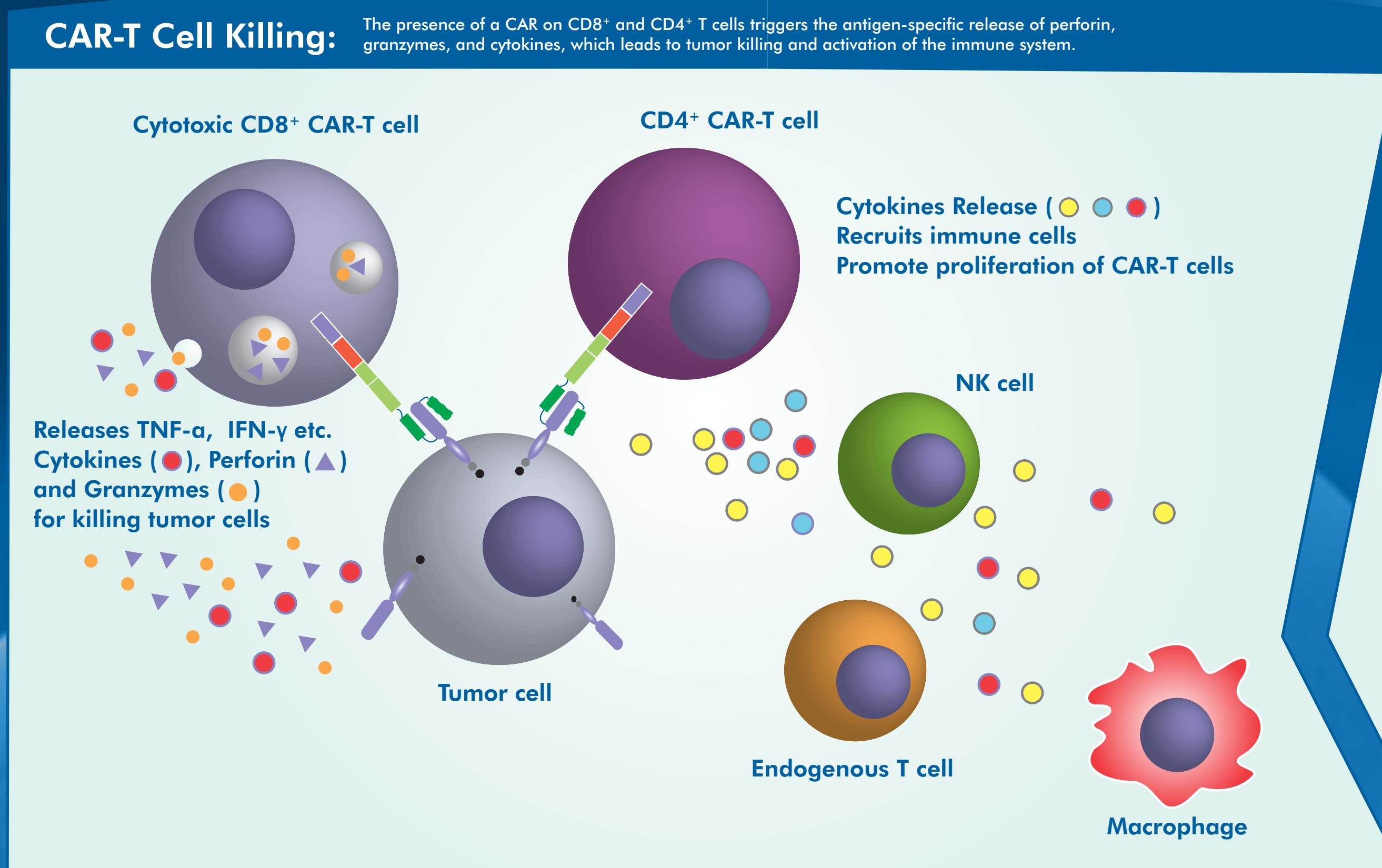
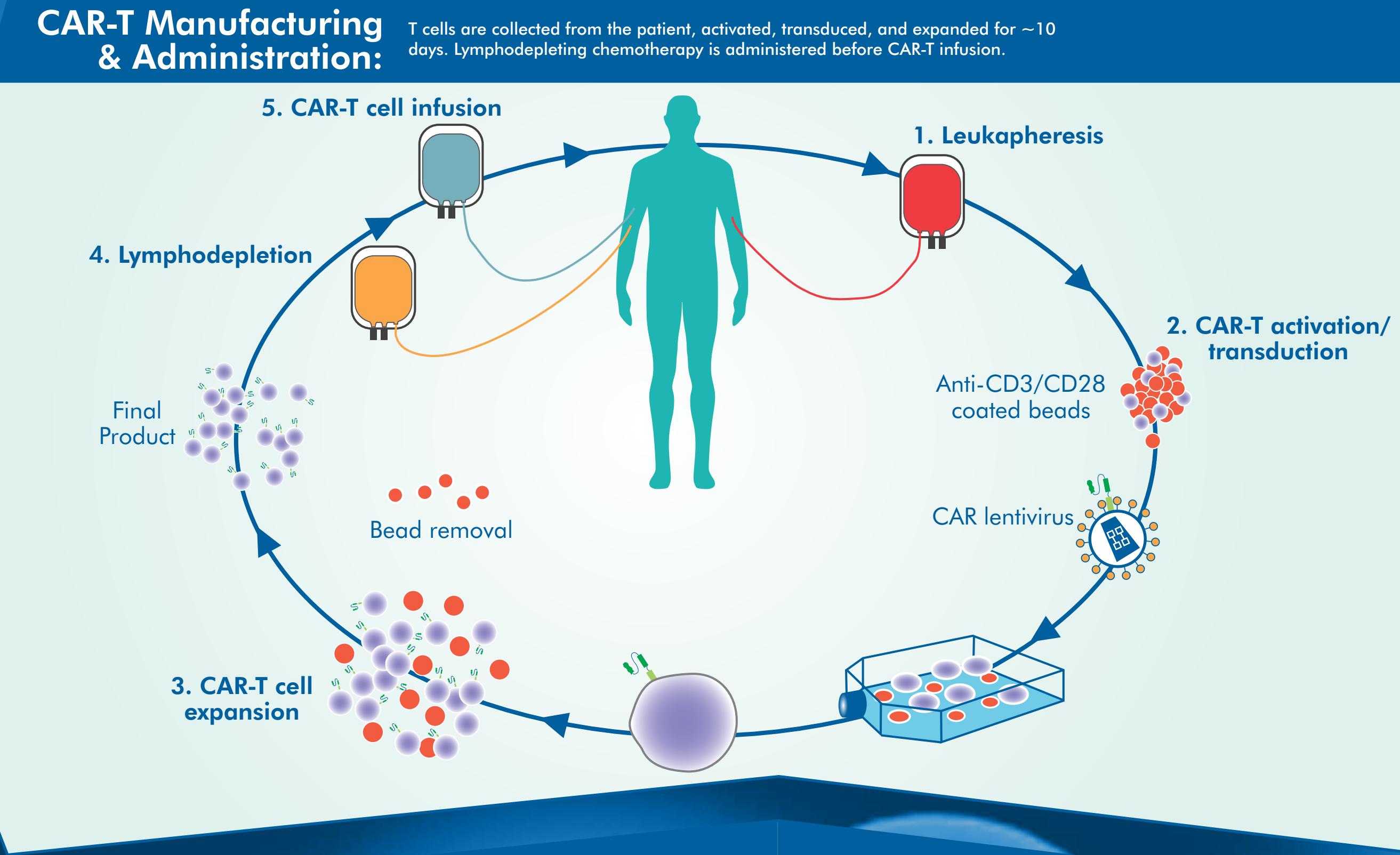
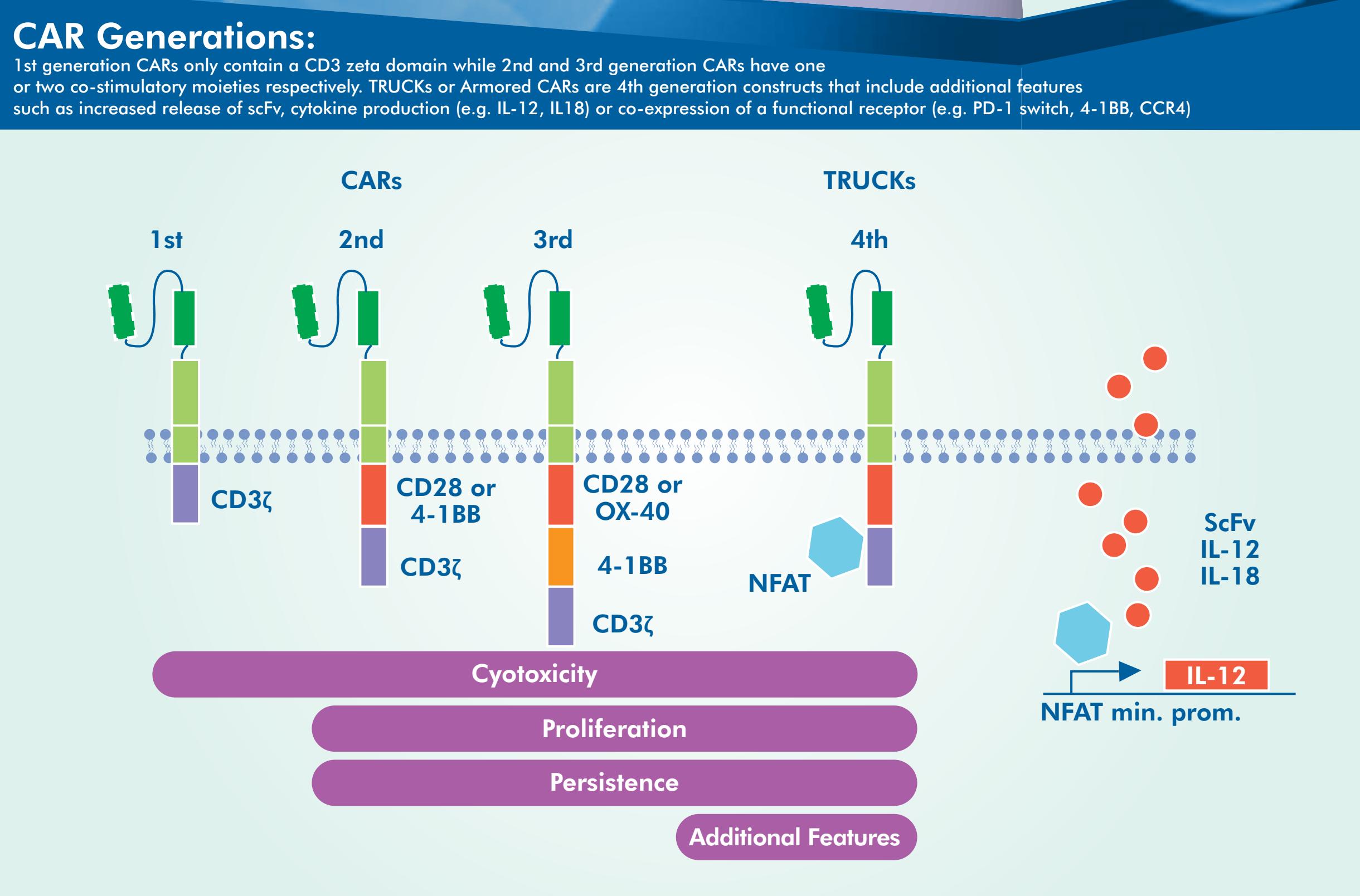
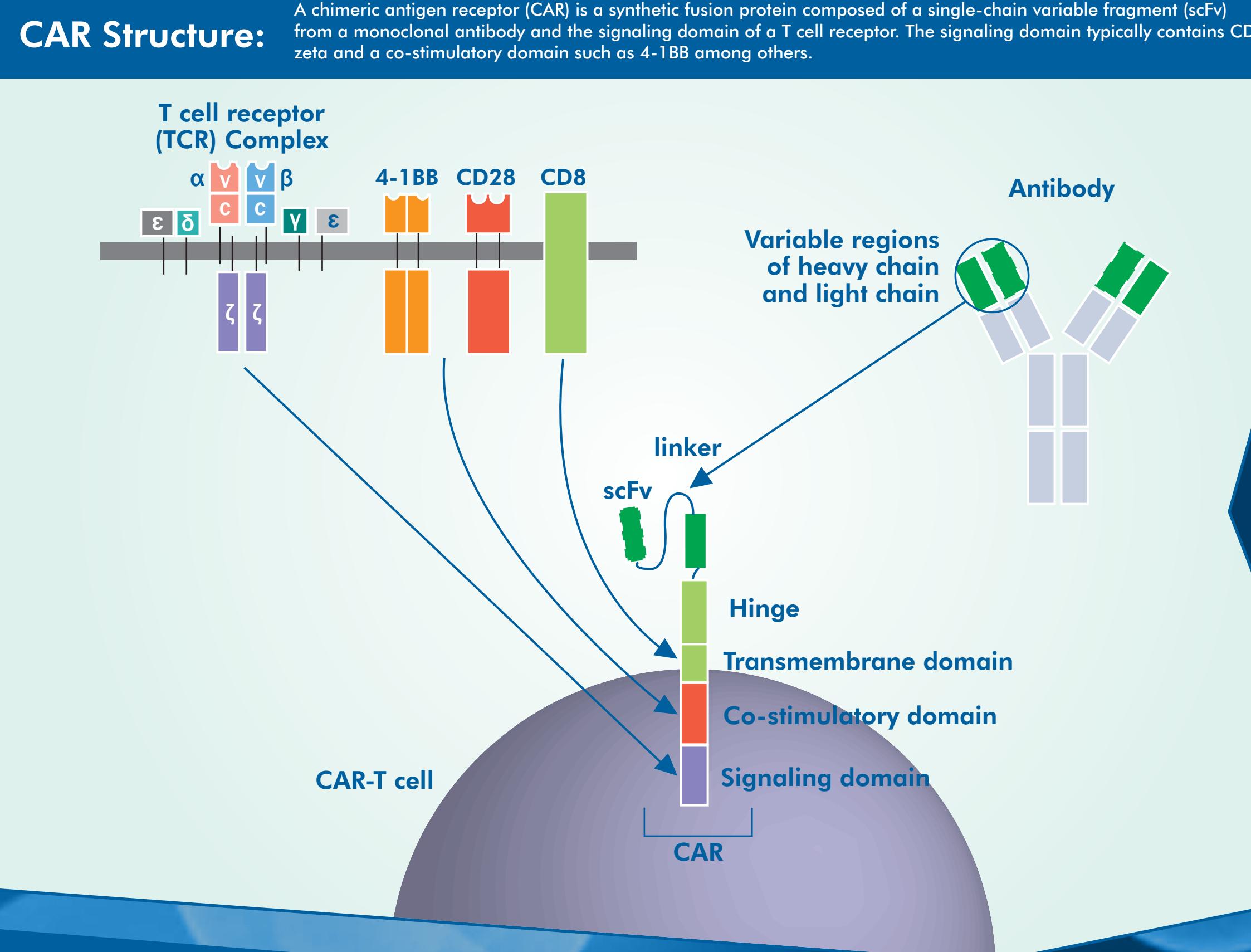


Chimeric Antigen Receptor (CAR)-T Cell Immunotherapy

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Key targets for CAR-T cell therapy and established clinical results

Disease	Target	Effector	Efficacy	Toxicity	Citation
B-cell Acute Leukemia (pediatric-young adult)	CD19	CTL019 (4-1BB)	CR 81% [61/75] RFS (12 months) 59%	CRS 77% Gr. 4 CRS 25% Neurotoxicity 40%	Maude et al., 2018 [NEJM; PMID: 29385370]
B-cell Acute Leukemia (adult)	CD19	JCAR017 (CD4/CD8; 4-1BB)	CR 93% [27/29] RFS: n/a	CRS 83% Severe CRS (Doesn't Specify) 23% Neurotoxicity 50%	Turtle et al., 2017 [JCI; PMID: 27111235]
B-cell Lymphoma (DLBCL, FL)	CD19	CTL019 (4-1BB)	CR 57% [16/28] PFS (28.6 months) 57%	CRS 57% Severe CRS (Grade 3 or Higher): 18% Neurotoxicity 39%	Schuster et al., 2017 [NEJM; PMID: 9226764]
B-cell Chronic Leukemia	CD19	CTL019 (4-1BB)	CR 29% [4/14] PFS (18 months) 29% [6/16]	CRS 64% Severe CRS 29% (43%) Neurotoxicity 37%	Porter et al., 2015 [STM; PMID: 26333935]
B-cell Acute Leukemia (pediatric-young adult)	CD22	CAR-T-22 (4-1BB)	CR 57% [12/21] PFS (6 months) 50%	CRS 76% Severe CRS 0% Neurotoxicity 37% [6/16]	Fry et al., 2017 [Nat Med; PMID: 29155426]
Multiple Myeloma	BCMA	BCMA-CART (4-1BB)	ORR 100% [15/15] sCR+VGPR 73% [11/15]	CRS 78% [14/18] Severe CRS 11% [2/18]	Bergdeja et al., 2017 [ASH; Paper 107984, Session: 653]

CR = complete remission; PFS = progression-free survival; DFS = disease-free survival; CRS = cytokine release syndrome; n/a = not applicable sCR = stringent CR; VGPR = very good partial remission; ORR = overall response rate

