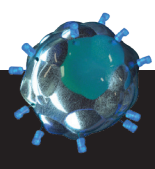
ARCELLX®

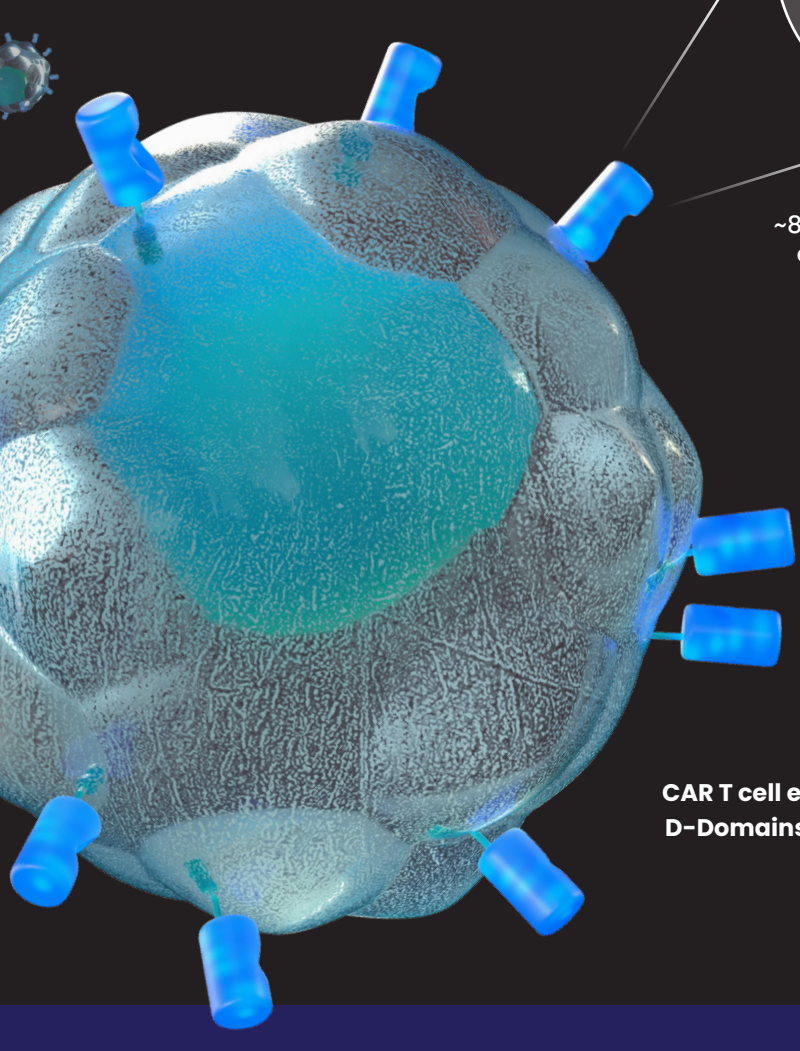
SEE THE D-DOMAIN IN ACTION

Welcome to the new D-Domain

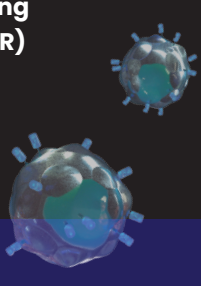


The D-Domain is a small, compact, and stable protein, approximately one-third of the size of binding domains used in conventional chimeric antigen receptors (CARs).[1-3]

D-Domain
~8 kilodaltons (kDa), triple alpha-helical bundle[1,4]



CAR T cell expressing D-Domains (ddCAR)



The D-Domain is a new type of antigen-binding scaffold for CAR T cells with several unique attributes[1]

The small size of the D-Domain and its rapid folding ability may facilitate high transduction efficiency.[1]

The D-Domain binder has a fast off-rate, which may be more analogous to physiologic T-cell function.[1,5]

The D-Domain has a low propensity to aggregate, which may limit tonic signaling in the absence of antigen binding.[6-9]

Ready to see the D-Domain in action?

EXPLORE THE TECHNOLOGY

References: 1. Buonato JM, Edwards JP, Zaritskaya L, et al. Preclinical efficacy of BCMA-directed CAR T cells incorporating a novel D domain antigen recognition domain. *Mol Cancer Ther*. 2022;21(7):1171-1183. doi:10.1158/1535-7163.MCT-21-0552 **2.** Frigault M, Rosenblatt J, Dhakal B, et al. Phase 1 study of CART-ddbcma for the treatment of subjects with relapsed and /or refractory multiple myeloma. *Blood*. 2022;140(suppl 1):7439-7440. doi:10.1182/blood-2022-163827 **3.** Qin H, Edwards JP, Zaritskaya L, et al. Chimeric antigen receptors incorporating D domains targeting CD123 direct potent mono- and bi-specific antitumor activity of T cells. *Mol Ther*. 2019;27(7):1262-1274. doi:10.1016/j.ymthe.2019.04.010 **4.** Walsh ST, Cheng H, Bryson JW, Roder H, DeGrado WF. Solution structure and dynamics of a de novo designed three-helix bundle protein. *Proc Natl Acad Sci U S A*. 1999;96(10):5486-5491. doi:10.1073/pnas.96.10.5486 **5.** Roddie C, Dias J, O'Reilly MA, et al. Durable responses and low toxicity after fast off-rate CD19 chimeric antigen receptor-T therapy in adults with relapsed or refractory B-cell acute lymphoblastic leukemia. *Journal of Clinical Oncology*. 2021;39(30):3352-3363. doi:10.1200/jco.21.00917 **6.** Data on file, Arcellx, Inc. **7.** Long AH, Haso WM, Shern JF, et al. 4-1BB costimulation ameliorates T cell exhaustion induced by tonic signaling of chimeric antigen receptors. *Nat Med*. 2015;21(6):581-590. doi:10.1038/nm.3838 **8.** Long AH, Haso WM, Shern JF, et al. 4-1BB costimulation ameliorates T cell exhaustion induced by tonic signaling of chimeric antigen receptors. Supplementary appendix. *Nat Med*. 2015;21(6):581-590. Accessed November 15, 2023. https://static-content.springer.com/esm/art:10.1038/nm.3838/MediaObjects/41591_2015_BFnm3838_MOESM8_ESM.pdf **9.** Hanssens H, Meeus F, De Veirman K, Breckpot K, Devoogdt N. The antigen-binding moiety in the driver's seat of CARs. *Med Res Rev*. 2022;42(1):306-342. doi:10.1002/med.21818

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