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Autologous Anti-BCMA-CAR-TCRz/4-1BB-expressing T-lymphocytes CART-BCMA

National Cancer Institute

Source

National Cancer Institute. *Autologous Anti-BCMA-CAR-TCRz/4-1BB-expressing T-lymphocytes CART-BCMA*. NCI Thesaurus. Code C156272.

A preparation of autologous T-lymphocytes that have been ex vivo transduced with a genetically-engineered lentiviral vector (LV) expressing a chimeric antigen receptor (CAR) containing an extracellular human single chain variable fragment (scFv) specific for the tumor-associated antigen (TAA) human B-cell maturation antigen (BCMA; tumor necrosis factor receptor superfamily member 17; TNFRSF17) fused to an intracellular tandem signaling domain comprised of the co-stimulatory domain of 4-1BB (CD137) and the zeta chain of the T-cell receptor (TCR)/CD3 complex (CD3z), with potential immunostimulating and antineoplastic activities. Upon administration, autologous anti-BCMA-CAR-4-1BB-CD3zeta-expressing T-lymphocytes specifically recognize and induce selective toxicity in BCMA-expressing tumor cells. BCMA, a tumor-specific antigen and a receptor for both a proliferation-inducing ligand (APRIL) and B-cell activating factor (BAFF), is a member of the tumor necrosis factor receptor superfamily (TNFRSF) and plays a key role in plasma cell survival. BCMA is found on the surfaces of plasma cells and overexpressed on malignant plasma cells.