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Autologous Anti-BCMA-CAR-mRNA-transfected CD8+ T-lymphocytes

National Cancer Institute

Source

National Cancer Institute. *Autologous Anti-BCMA-CAR-mRNA-transfected CD8+ T-lymphocytes*. NCI Thesaurus. Code C156706.

A preparation of autologous CD8-positive T-lymphocytes that have been genetically modified via transient mRNA transfection to express a chimeric antigen receptor (CAR) specific for the tumor-associated antigen (TAA) human B-cell maturation antigen (BCMA; tumor necrosis factor receptor superfamily member 17; TNFRSF17) and containing, as of yet undisclosed co-stimulatory signaling domains, with potential immunostimulating and antineoplastic activities. Upon administration, autologous anti-BCMA-CAR-mRNA transfected CD8+ 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.