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# T1E28z CAR-expressing Autologous CD4-positive T Lymphocytes

National Cancer Institute

## Source

National Cancer Institute. *T1E28z CAR-expressing Autologous CD4-positive T Lymphocytes*. NCI Thesaurus. Code C106117.

Autologous CD4 positive T-lymphocytes engineered to express the chimeric antigen receptor (CAR) T1E28z containing the ErbB ligand, T1E, fused to the hinge region, transmembrane domain and endodomain of CD28 and the CD3zeta endodomain, with potential immunomodulating and antineoplastic activities. T1E, a chimeric polypeptide containing the N-terminus of human transforming growth factor (TGF)-alpha fused to the C-terminus of epidermal growth factor (EGF), binds to ErbB1 homodimers and heterodimers as well as ErbB2/3 heterodimers, but not to ErbB2 or erbB3 alone. Upon intratumoral administration, the promiscuous ErbB ligand T1E of the T1E28z CAR-expressing autologous CD4-positive T lymphocytes binds to the specific ErbB homo- and heterodimers on tumor cells. This induces selective toxicity in ErbB-expressing tumor cells resulting in tumor cell lysis. ErbB1, ErbB2 and ErbB3, members of the epidermal growth factor receptor (EGFR) family of receptor tyrosine kinases, are frequently overexpressed in solid tumors and play key roles in tumor cell proliferation and tumor angiogenesis.