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# Autologous HER2-specific/EGFRt-expressing CD4/CD8-positive CAR T-cells

National Cancer Institute

## Source

*National Cancer Institute. Autologous HER2-specific/EGFRt-expressing CD4/CD8-positive CAR T-cells. NCI Thesaurus. Code C156156.*

A preparation of CD4+ and CD8+ autologous T-lymphocytes transduced with a lentiviral vector expressing a human epidermal growth factor receptor type 2 (HER2; EGFR2; ErbB2)-specific chimeric antigen receptor (CAR) coupled to a truncated form of the human epidermal growth factor receptor (EGFRt), with potential immunostimulating and antineoplastic activities. Upon intravenous administration, the autologous HER2-specific/EGFRt-expressing CD4/CD8-positive CAR T-cells are directed to and induce selective toxicity in HER2-expressing tumor cells. Devoid of both ligand binding domains and tyrosine kinase activity, the expressed EGFRt both facilitates in vivo detection of the administered, transduced T-cells and can promote elimination of these cells through an anti-EGFR antibody-induced antibody-dependent cellular cytotoxicity (ADCC) response. HER2, a receptor tyrosine kinase (RTK) overexpressed by a variety of tumor cell types, belongs to the EGFR superfamily and plays a key role in tumor cell proliferation.