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# Anti-HER2-CAR Autologous CMV-Specific Cytotoxic T-Lymphocytes

National Cancer Institute

## Source

National Cancer Institute. *Anti-HER2-CAR Autologous CMV-Specific Cytotoxic T-Lymphocytes*. NCI Thesaurus. Code C91091.

Autologous human cytomegalovirus (CMV)-specific human cytotoxic T-lymphocytes (CTLs) transduced with a retroviral vector encoding a human anti-Her-2 (epidermal growth factor receptor 2) chimeric T cell receptor (CAR) gene with potential immunostimulatory and antineoplastic activities. Autologous CTLs from a patient with Her-2- and CMV-positive glioblastoma multiforme (GBM) are genetically modified to express CAR gene specific for Her-2 on their cell surfaces. After expansion in culture and reintroduction into the patient, the anti-HER2-CAR autologous CMV-specific CTLs bind to Her-2 antigen on tumor cell surfaces; subsequently, Her-2-positive tumor cells and stem cells may be lysed. Her-2 (ErbB-2), a receptor tyrosine kinase (RTK) overexpressed by a variety of cancer cell types, plays key roles in tumor cell proliferation and tumor angiogenesis. CMV is present in the majority of GBM tumors.