

[Open Peer Review on Qeios](#)

# TGF-beta-Resistant LMP-Specific Cytotoxic T-Lymphocytes

National Cancer Institute

## Source

National Cancer Institute. *TGF-beta-Resistant LMP-Specific Cytotoxic T-Lymphocytes*.  
NCI Thesaurus. Code C77859.

A preparation of transforming growth factor-beta (TGF-beta)-resistant cytotoxic T-lymphocytes (CTL) reactive to Epstein-Barr virus (EBV) latent membrane proteins 1 and 2 (LMP 1 and 2) with potential antineoplastic activity. T lymphocytes are transduced with a retroviral vector expressing the dominant-negative mutant type II TGF-beta receptor, which blocks signaling by all three TGF-beta isoforms. These TGF-beta-resistant T-lymphocytes are exposed ex-vivo to dendritic cells (DCs) transfected with a replication-deficient adenovirus encoding EBV LMP; subsequent exposure to LMP1- or LMP2-expressing lymphoblastoid cell lines is used to expand the CTL. Administered to patients with EBV-positive tumors, TGF-beta-resistant LMP-specific CTL target LMP-positive cells, which may result in a specific CTL response, followed by cell lysis and inhibition of tumor cell proliferation. Tumor-expressed TGF-beta inhibits T lymphocyte activation and expansion.