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Autologous Anti-CD19CAR-HER2t/CD22CAR-EGFRt-expressing T-cells

National Cancer Institute

Source

National Cancer Institute. *Autologous Anti-CD19CAR-HER2t/CD22CAR-EGFRt-expressing T-cells*. NCI Thesaurus. Code C155897.

A preparation of autologous human T-lymphocytes engineered to express dual chimeric antigen receptors (CARs) consisting of both anti-CD19 and anti-CD22 binding domains, fused to an as of yet undisclosed co-stimulatory domain, and linked to truncated forms of the human epidermal growth factor receptor 2 (HER2t) and the human epidermal growth factor receptor (EGFRt), respectively with potential immunostimulating and antineoplastic activities. Upon administration, the autologous anti-CD19CAR-HER2t/CD22CAR-EGFRt-expressing T-cells bind to CD19 and CD22 on the surface of, and induce selective toxicity against tumor cells expressing CD19 and CD22. Devoid of both ligand binding domains and tyrosine kinase activity, the expressed EGFRt and HER2t facilitate both in vivo detection of the administered, transduced T-cells and can promote elimination of those cells through an antibody-dependent cellular cytotoxicity (ADCC) response. CD19 and CD22, both transmembrane phosphoglycoproteins expressed on the surface of cells in the B lineage, are often overexpressed on malignant B-cells.