

[Open Peer Review on Qeios](#)

Anti-CD22 scFv TCRz:41BB-CAR Lentiviral Vector-transduced Autologous T-lymphocytes

National Cancer Institute

Source

National Cancer Institute. *Anti-CD22 scFv TCRz:41BB-CAR Lentiviral Vector-transduced Autologous T-lymphocytes*. NCI Thesaurus. Code C124656.

Autologous human T-lymphocytes transduced with a recombinant lentiviral vector encoding a chimeric T-cell receptor consisting of an anti-CD22 single chain variable fragment (scFv) and the co-stimulatory domain 4-1BB (CD137) coupled to the zeta chain of the TCR/CD3 complex (CD3-zeta), with potential immunostimulating and antineoplastic activities. Autologous peripheral blood lymphocytes (PBLs) from a patient with CD22-positive cancer are transduced with this lentiviral vector that encodes the CAR gene specific for CD22. After isolation, transduction, expansion in culture and reintroduction into the patient, the anti-CD22 scFv TCRz:41BB-CAR lentiviral vector-transduced autologous T-lymphocytes express anti-CD22-CAR on their cell surfaces and bind to the CD22 antigen on tumor cell surfaces. Subsequently, CD22-expressing tumor cells are lysed. CD22, a B-lineage-restricted, transmembrane phosphoglycoprotein, is expressed on malignant B-cells.