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Axicabtagene Ciloleucel

National Cancer Institute

Source

National Cancer Institute. *Axicabtagene Ciloleucel*. NCI Thesaurus. Code C120309.

A preparation of autologous peripheral blood T-lymphocytes (PBT L) that have been transduced with a gammaretroviral vector expressing a chimeric antigen receptor (CAR) consisting of an anti-CD19 single chain variable fragment (scFv) coupled to the costimulatory signaling domain CD28 and the zeta chain of the T-cell receptor (T CR)/CD3 complex (CD3 zeta), with potential immunostimulating and antineoplastic activities. Upon intravenous infusion and re-introduction of axicabtagene ciloleucel into the patient, these cells bind to and induce selective toxicity in CD19-expressing tumor cells. CD19 antigen is a B-cell specific cell surface antigen that is expressed in all B-cell lineage malignancies. CD3 zeta is one of several membrane-bound polypeptides found in the T CR/CD3 complex; it regulates both the assembly and cell surface expression of T CR complexes. CD28 is essential for CD4+ T-cell proliferation, interleukin-2 production, and T-helper type-2 (Th2) development.