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PD-1 knockout EBV-specific Cytotoxic T Lymphocytes

National Cancer Institute

Source

National Cancer Institute. *PD-1 knockout EBV-specific Cytotoxic T Lymphocytes*. NCI Thesaurus. Code C148180.

A preparation of Epstein-Barr virus (EBV) reactive cytotoxic T-lymphocytes (CTLs) in which the programmed cell death 1 (PD-1; PDCD1; CD279; programmed death-1) gene is deleted, with potential immunomodulating activity. Upon administration of the PD-1 knockout EBV-specific CTLs, these CTLs target and induce selective toxicity in EBV-positive cancer cells. This results in cell lysis and inhibition of cancer cell proliferation. Expression of PD-1, an inhibitory receptor expressed on activated T-cells, plays a key role in CTL suppression, T-cell exhaustion and CTL apoptosis. PD-1 knockout abrogates T-cell exhaustion and increases T-cell activity and cytotoxicity. EBV, a ubiquitous human herpesvirus, is associated with various cancer cell types.