Autologous Anti-MART-1 F5 T-Cell Receptor Gene-Engineered Peripheral Blood Lymphocytes

National Cancer Institute

Source

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Human autologous peripheral blood lymphocytes (PBLs) transduced with a melanoma antigen MART-1 epitope-determined T cell receptor (TCR) gene, with potential antineoplastic activity. PBLs are isolated from a melanoma patient and pulsed with a viral vector that encodes the TCR specific for an epitope of MART-1 (F5 TCR). After expansion ex vivo, the transduced autologous PBLs, expressing this specific TCR, are reintroduced into the patient, and bind to melanoma cells expressing the MART-1 antigen, which may result in specific cytotoxic T-lymphocyte (CTL) killing of MART-1-expressing melanoma cells. MART-1 (melanoma antigen recognized by T cells 1), also known as Melan-A, is a melanocyte lineage-specific transmembrane protein.