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# SiRNA-transfected Peripheral Blood Mononuclear Cells APN401

National Cancer Institute

## Source

National Cancer Institute. *siRNA-transfected Peripheral Blood Mononuclear Cells APN401*. NCI Thesaurus. Code C116353.

Autologous peripheral blood mononuclear cells (PBMCs) transfected ex vivo with small-interfering ribonucleic acid (siRNA) directed against the E3 ubiquitin ligase casitas B-lineage lymphoma-b gene (Cbl-b), with potential immunoactivating and antineoplastic activities. The Cbl-b gene is silenced ex vivo through the binding of Cbl-b siRNA to Cbl-b mRNA, which prevents the translation of the Cbl-b protein in T-lymphocytes. Upon infusion, the activated, Cbl-b-silenced T-lymphocytes are able to increase the production of cytokines, proliferate and activate the immune system, which leads to cancer cell eradication. Cbl-b, a negative regulator of the immune system, is mutated in a variety of cancer cell types. Its expression is inversely correlated with activation of T-lymphocytes and tumor cell eradication.