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Autologous Natural Killer Cell-like CTLs

National Cancer Institute

Source

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A preparation of cytotoxic T-lymphocytes (CTLs) that express natural killer (NK)-like features (nCTLs), with potential immunomodulating and antineoplastic activities. The nCTLs are derived from autologous lymphocytes that have been in vitro exposed to autologous alpha-type-1 polarized dendritic cells that are pulsed with specific autologous tumor-associated antigens (TAAs); the nCTLs are subsequently expanded in the presence of the cytokine human interleukin-2 (IL-2). The generated nCTLs are potent CTLs that produce high amounts of granzyme B and perforin, and interferon-gamma (IFN γ) with high killer activity and tumor-homing potential. Upon infusion of the autologous nCTLs, these cells specifically recognize the TAAs on the tumor cells, then bind to and directly lyse tumor cells.