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Therapeutic Dendritic Cells/Cytokine-induced Killer Cells

National Cancer Institute

Source

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A preparation of autologous dendritic cells (DC) mixed with cytokine-induced killer (CIK) cells (DC-CIK), with potential immunopotentiating and antineoplastic activities. DCs were obtained ex vivo by incubation of peripheral blood lymphocytes (PBLs) with granulocyte-macrophage colony-stimulating factor stimulating factor (GM-CSF or CSF2), tumor necrosis factor (TNF), and interleukin (IL)-24 and were sensitized with tumor-associated antigens (TAAs). Cytokine-induced killer (CIK) cells are immune effector cells with both T-cell and natural killer (NK) cell like phenotype. CIKs are non-major histocompatibility complex (MHC)-restricted, NK-like T-lymphocytes, which express both CD3, a T-cell surface marker, and CD56, a natural killer cell surface marker, and have been generated ex vivo by incubation of peripheral blood lymphocytes (PBLs) with anti-CD3 monoclonal antibody, IL-2, IL-1 alpha, and interferon gamma (IFN-gamma) and then expanded. Upon co-culture of DCs and CIKs, and administration of DC-CIK cells into the patient, the DCs are able to stimulate the immune response to exert a specific anti-tumor immune response, while the CIK cells exert direct oncolytic activity.