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Aldesleukin Prodrug NKTR-214

National Cancer Institute

Source

National Cancer Institute. *Aldesleukin Prodrug NKTR-214*. NCI Thesaurus. Code C131019.

A recombinant form of the endogenous cytokine interleukin-2 (IL-2) conjugated to six releasable polyethylene glycol (PEG) chains, with potential immunostimulating activity. Upon administration of the aldesleukin prodrug NKTR-214, the IL-2 moiety binds to the IL-2 receptor beta subunit (IL2Rb; IL2Rbeta; CD122). The binding of IL-2 to IL2Rb activates IL2Rb-mediated signaling, which activates cytotoxic T-lymphocytes (CTLs) and natural killer (NK) cells, and induces expression of certain cytotoxic cytokines, such as interferon-gamma (IFNg) and transforming growth factor-beta (TGfB). The specific induction of T-cell-mediated cytotoxic immune responses against tumor cells primarily causes tumor cell destruction. IL2Rb plays a key role in the proliferation and activation of effector T-cells. PEG conjugation prevents IL-2 binding to the IL2Ralpha subunit (IL2Ra) because signaling through IL2Ra activates CD4-positive regulatory, immunosuppressive T-cells (Tregs), which would suppress tumor cell killing.