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Heterodimeric Interleukin-15

National Cancer Institute

Source

National Cancer Institute. *Heterodimeric Interleukin-15*. NCI Thesaurus. Code C122401.

A fusion protein complex composed of heterodimeric IL-15 (hetIL-15), which consists of a synthetic form of the endogenous cytokine interleukin-15 chain (IL-15) complexed to the soluble IL-15 binding protein IL-15 receptor alpha chain (IL-15Ra) (IL15:sIL-15Ra), with potential immunomodulatory, anti-infective and antineoplastic activities. Upon administration, hetIL-15 binds to the IL-2/IL-15 receptor beta-common gamma chain (IL-2Rbeta-gamma) receptor on natural killer (NK) and T-lymphocytes, which activates and increases the levels of NK cells and CD8+ and CD4+ T-cells. The T-cells enhance the secretion of the cytokine interferon-gamma (IFN-g), which further potentiates the immune response against tumor cells. Altogether, this enhances tumor cell killing and decreases tumor cell proliferation. By coupling IL-15 to IL15Ra, this agent has an improved pharmacokinetic profile, shows an increased ability to bind IL-2Rbeta-gamma, and shows increased immunostimulatory activity as compared to IL-15 alone.