

DESCRIPTION

Source *E. coli*-derived
 Asn49-Ser162
 Accession # P40933

N-terminal Sequence Analysis Asn49

Predicted Molecular Mass 12.5 kDa

SPECIFICATIONS

Activity Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. The ED₅₀ for this effect is typically 0.8-4 ng/mL.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 50 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Interleukin 15 (IL-15) is a widely expressed 14 kDa cytokine that is structurally and functionally related to IL-2 (1 - 3). Mature human IL-15 shares 70% amino acid sequence identity with mouse and rat IL-15. Alternate splicing generates isoforms of IL-15 with either a long or short signal peptide (LSP or SSP), and the SSP isoform is retained intracellularly (4). IL-15 binds with high affinity to IL-15 R α (5). It binds with lower affinity to a complex of IL-2 R β and the common gamma chain (γ c) which are also subunits of the IL-2 receptor complex (1, 6). IL-15 associates with IL-15 R α in the endoplasmic reticulum, and this complex is expressed on the cell surface (7, 8). The dominant mechanism of IL-15 action is known as transpresentation in which IL-15 and IL-15 R α are coordinately expressed on the surface of one cell and interact with complexes of IL-2 R β / γ c on adjacent cells (9). This enables cells to respond to IL-15 even if they do not express IL-15 R α (8, 10). Soluble IL-15-binding forms of IL-15 R α can be generated by proteolytic shedding or alternate splicing (11 - 13). These molecules retain the ability to bind tightly to IL-15 and can either inhibit or augment IL-15 function (5, 12, 13). Consistent with its shared use of IL-2 receptor subunits, IL-15 induces IL-2-like effects in lymphocyte development and homeostasis (3). It is particularly important for the maintenance and activation of NK cells and CD8+ memory T cells (3). IL-15 also exerts pleiotropic effects on other hematopoietic cells and non-immune cells (2). Ligation of membrane-associated IL-15/IL-15 R α complexes induces reverse signaling that promotes cellular adhesion, tyrosine phosphorylation of intracellular proteins, and cytokine secretion by the IL-15/IL-15 R α expressing cells (14, 15).

References:

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