Interleukin-15 Murine E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Murine
Other names: IL-15

Cat. No.:

RBG20015002	(2 µg)
RBG20015010	(10 µg)
RBG20015100	(100 µg)

Description

IL-15 is an immunomodulating cytokine that stimulates the proliferation of T lymphocytes and shares many biological properties with IL-2. IL-15 exerts its biological activities primarily on T cells. It is also essential in the development, survival and activation of NK cells. Increased expression of IL-15 has been linked to rheumatoid arthritis, inflammatory bowel disease, and diseases affiliated with retroviruses HIV and HTLV-I. Human IL-15 is biologically active on mouse cells as measured by the dose-dependent stimulation of the proliferation of mouse CTLL cells. Recombinant Murine IL-15 is a 13.3 kDa protein consisting of 115 amino acid residues.

Introduction to the Molecule

Interleukin-15 (IL-15) is a 14 kDa proinflammatory protein that has been shown to play a role in the activation of neutrophils, dendritic cells, and macrophages, and is essential to the development and survival of NK cells and CD8 T-cells. IL-15 activates Jak/Stat pathways by signaling through a heterotrimeric receptor. Two of the subunits of this receptor, beta and ?, are shared with the IL-2 receptor, while the alpha subunit is unique to IL-15. Despite the expression of IL-15 mRNA in many cell types, the secreted protein is rarely detectable in biological samples. Recent research suggests that IL-15 is retained inside the cell and is only secreted in complex with its unique receptor, IL-15Ralpha. This chaperoning is required from the ER to Golgi through to secretion. The cytokine/receptor complex may stay bound to the cell surface, where it can be transpresented to cells expressing the beta? subunits of the receptor, or may be secreted in a soluble form that lacks the transmembrane domain of the receptor. The soluble IL-15/IL-15R complex is produced by mouse dendritic cells, fibroblasts, and macrophages, and demonstrates a 10- 100-fold increase in agonistic activity over IL-15 alone.

Research topic

Cytokines and chemokines and related molecules

Amino Acid Sequence

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MNWIDVRYDL EKIESLIQSI HIDTTLYTDS DFHPSCKVTA MNCFLLELQV ILHEYSNMTL NETVRNVLYL ANSTLSSNKN
VAESGCKECE ELEEKTFTEF LQSFIRIVQM FINTS
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Source

E. coli

Purity

98%

Biological Activity

The ED_{50} was determined by the stimulation of the proliferation of murine CTLL-2 cells is < 5.0 ng/ml, corresponding to a specific activity of > 2×10^5 units/mg.

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.5-1.0 mg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

Storage, Stability/Shelf Life

-20°C

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