

General Information

Synonyms	IL15; IL-15; IL-15MGC9721; interleukin 15; interleukin-15
Accession #	P40933.1
Source	Human embryonic kidney cell, HEK293-derived human IL-15 protein
	Asn49-Ser162
Predicted Molecular weight	12.8 kDa

Components and Storage

Formulation	Solution protein. Dissolved in PBS buffer. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
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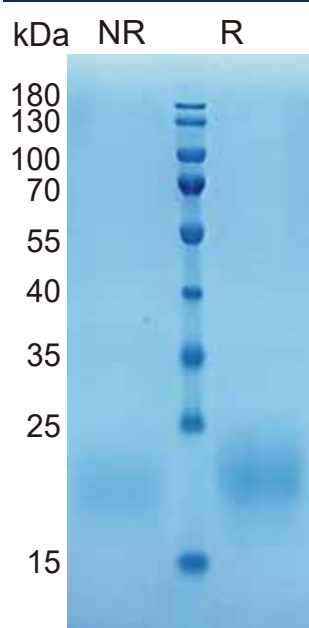
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
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Shipping	Shipping with dry ice.
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Quality

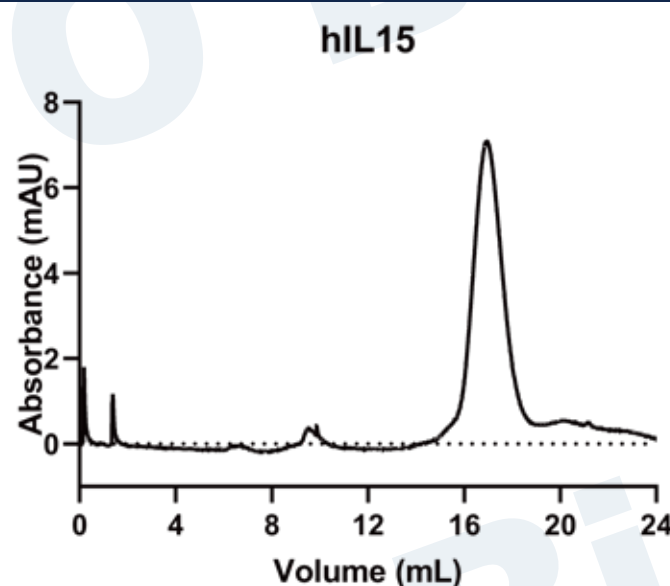
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. The EC50 for this effect is 0.1-1.0 ng/mL.

SDS-PAGE



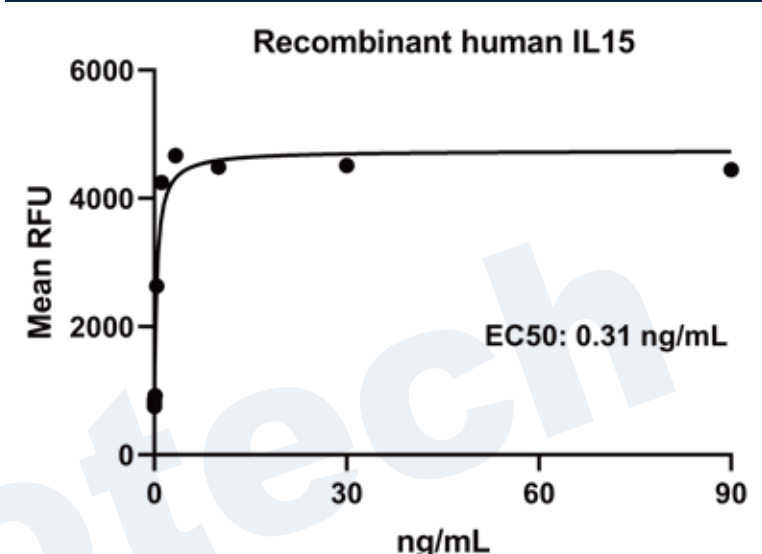
2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL15 protein (280 nm absorbance)

Bioactivity



Recombinant human IL15 (Catalog # HF-1015) stimulates cell proliferation of the MO7e human megakaryocytic leukemic cells.

Background

Interleukin-15 (IL-15) is a cytokine that regulates T and natural killer cell activation and proliferation. This cytokine and interleukin 2 share many biological activities. (1, 2). Mature human IL-15 protein shares 70% amino acid sequence identity with mouse and rat IL-15. Alternative splicing generates isoforms of Interleukin 15 with either a long or short signal peptide (LSP or SSP), and the SSP isoform is retained intracellularly (3). The IL-15 protein binds with high affinity to IL-15 R alpha (4). It binds with lower affinity to a complex of IL-2 R beta and the common gamma chain (gamma c) which are also subunits of the IL-2 receptor complex (5). IL-15 associates with IL-15 R alpha in the endoplasmic reticulum, and this complex is expressed on the cell surface (6). The dominant mechanism of IL-15 action is known as transpresentation in which IL-15 and IL-15 R alpha are coordinately expressed on the surface of one cell and interact with complexes of IL-2 R beta / gamma c on adjacent cells (7). This enables cells to respond to Interleukin 15 even if they do not express IL-15 R alpha (6). In human and mouse, soluble IL-15-binding forms of IL-15 R alpha can be generated by proteolytic shedding and bind up nearly all the IL-15 protein in circulation (8-10). Soluble IL-15 R alpha functions as an inhibitor that limits IL-15 action (4, 9). Ligation of membrane-associated IL-15/IL-15 R alpha complexes also induces reverse signaling that promotes activation of the IL-15/IL-15 R alpha expressing cells (11).

Reference

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