

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 to a concentration of 0.2 mg/mL. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
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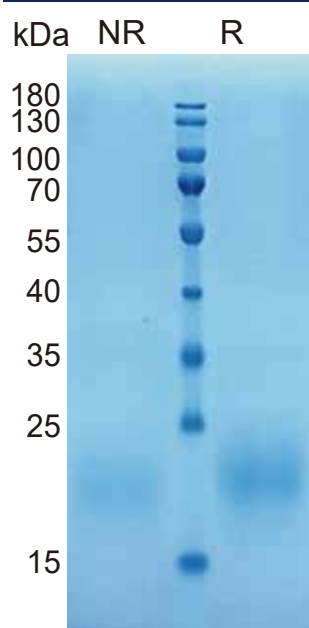
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
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Shipping	Shipping with dry ice.
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Quality

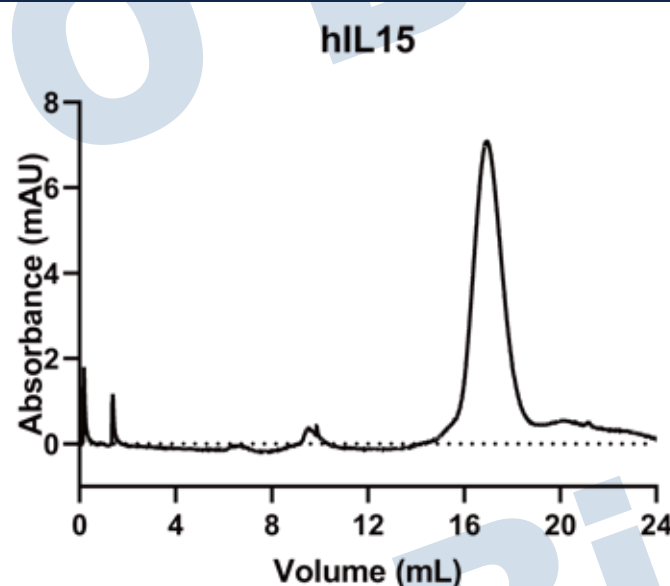
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. The EC50 for this effect is 0.1-1.0 ng/mL.

SDS-PAGE



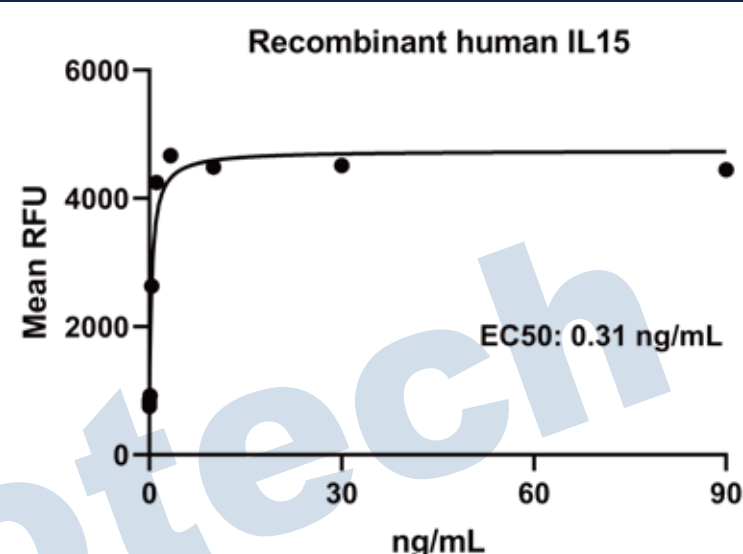
2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

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 TF-1 human erythroleukemic 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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