

Recombinant human IL15

Catalog No: #AG0011

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Description

Product Name	Recombinant human IL15
Host Species	HEK293
Purification	> 95% by Tris-Bis PAGE;> 95% by SEC-HPLC
Immunogen Description	Asn49-Ser162
Target Name	IL15
Other Names	Human IL-15, h-IL-15, rh-IL-15, recombinant IL-15, interleukin-15
Accession No.	Uniprot:P40933Gene ID:3600
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GeneID	3600
Target Species	human
Calculated MW	12.8 KDa
Tag Info	additional amino acid free
Formulation	0.22 µm filtered solution of PBS, pH 7.4.
Storage	Aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Background

Interleukin 15 (IL-15) is a widely expressed 14 kDa cytokine that is structurally and functionally related to IL-2 and plays an important role in many immunological diseases (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). IL-15 induces or enhances the differentiation, maintenance, or activation of multiple T cell subsets including NK, NKT, Th17, Treg, and CD8+ memory cells (12 - 16). An important component of these functions is the ability of IL-15 to induce dendritic cell differentiation and inflammatory activation (11, 14). IL-15 exhibits anti-tumor activity independent of its actions on NK cells or CD8+ T cells (17). It also inhibits the deposition of lipid in adipocytes, and its circulating levels are decreased in obesity (18).

Note: This product is for in vitro research use only