

Recombinant Mouse IL-15 (carrier-free)

Catalog# / Size	566301 / 2 µg 566302 / 10 µg 566304 / 100 µg
Regulatory Status	RUO
Other Names	IL-15
Description	<p>IL-15 was discovered in the supernatant of Simian kidney epithelial cell line CV-1/EBNA, as a soluble factor capable of supporting proliferation of the IL-2-dependent cell line, CTLL-2. IL-15 is a regulatory cytokine, and it is produced by dendritic cells, epithelial cells, fibroblasts, and monocytes. IL-15 plays an important role in immune response and shares many functions with IL-2. For example, it stimulates the proliferation of activated T cells, NK cells, and B cells, and induces immunoglobulin synthesis by B cells stimulated by anti-IgM or CD40 ligand. In addition, IL-15 promotes the development of dendritic cells and induces the production of proinflammatory cytokines from macrophages. IL-15 acts as a bridge between innate and adaptive immunity because of its diverse roles in the immune system.</p> <p>IL-15 binds to heterotrimeric receptors composed of IL-15Rα, IL-15Rβ, and IL-15Rγc. IL-15 shares the receptor chains β and γc with IL-2. IL-15 is normally not secreted in soluble form but is instead held on the cell surface bound to a unique receptor, IL-15Rα, especially on dendritic cells. Cell-bound IL-15 is then presented in trans form to T cells and NK cells and is recognized by the γc receptor on these cells; such recognition maintains cell survival and intermittent proliferation.</p>

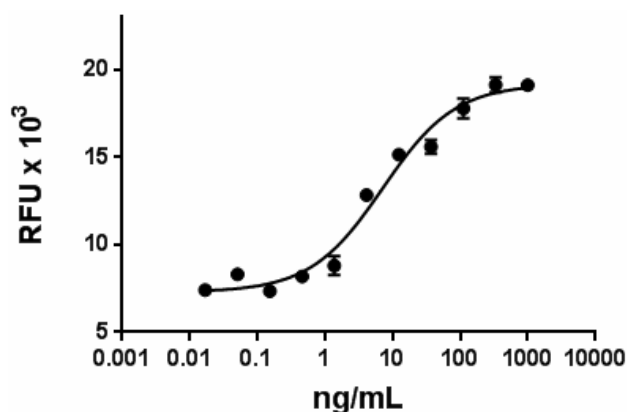
Product Details

Source	Mouse IL-15, amino acids Asn49-Ser162 (Accession# NM_008357), was expressed in <i>E. coli</i> .
Molecular Mass	The 115 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 13,382 Da.
Purity	Purity is >95%, as determined by Coomassie stained SDS-PAGE.
Formulation	Lyophilized from a concentrated solution (1 mg/ml) with 10 mM NaH ₂ PO ₄ , 150 mM NaCl, pH 8.0.
Endotoxin Level	Less than 1 EU/µg cytokine as determined by the LAL method.
Preparation	For maximum results, quick spin vial prior to opening. Reconstitute in sterile water to a concentration of 0.1 mg/ml including a carrier protein such as 1% BSA or HSA or 10% FBS.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for one month, at -20°C for six months, or at -70°C for one year. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored from -20°C to -70°C. Stock solutions can also be prepared at 50-100 µg/mL in sterile buffer (PBS, HPBS, DPBS, or EBSS) containing carrier protein such as 0.2-1% BSA or HSA and stored in working aliquots at -20°C to -70°C. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ =2.5 - 15 ng/ml, corresponding to a specific activity of 0.6 - 4 x 10 ⁵ units/mg, as determined by the dose dependent stimulation of CTLL-2 cell proliferation.
Application	Bioassay
Application Notes	This IL-15 protein is biologically active and can be used for <i>in vitro</i> assays.
Product Citations	<ol style="list-style-type: none">Chmielewski M and Abken H 2017. Cell Rep.. 10.1016/j.celrep.2017.11.063. PubMedKnox T, et al. 2019. Sci Rep. 9:6136. PubMedSchmid AS, et al. 2019. PLoS One. 14:e0219313. PubMedWalker JA, et al. 2020. Immunity. 51(1):104-118. PubMedGupta SS, et al. 2019. Cell Rep. 29:1862. PubMedLv M, et al. 2020. Cell Res. 30:966. PubMed

Antigen Details

Structure	Cytokine
Distribution	IL-15 is expressed by DC, epithelial cells, fibroblasts, and monocytes.
Function	IL-15 stimulates the proliferation of activated T cells, NK cells, and B cells, and inducing immunoglobulin synthesis by B cells stimulated by anti-IgM or CD40 ligand. In addition, IL-15 promotes the development of dendritic cells, and induces the production of proinflammatory cytokines from macrophages.
Ligand/Receptor	IL-15R α , IL-15R β and IL-15 γ c
Cell Type	Hematopoietic stem and progenitors
Biology Area	Stem Cells, Immunology, Innate Immunity
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none"> 1. Grabstein K, <i>et al.</i> 1994. <i>Science</i> 264:965. 2. Ma A, <i>et al.</i> 2006. <i>Annu. Rev. Immunol.</i> 24:657. 3. Meresse B, <i>et al.</i> 2004. <i>Immunity</i> 21:357. 4. Armitage RJ, <i>et al.</i> 1995. <i>J. Immunol.</i> 154:483. 5. Pulendran B, <i>et al.</i> 2004. <i>Eur. J. Immunol.</i> 34:66. 6. Bouchard A, <i>et al.</i> 2004. <i>J. Leukoc. Biol.</i> 76:162. 7. Ratthe C, <i>et al.</i> 2004. <i>J. Leukoc. Biol.</i> 75:893. 8. Feng T, <i>et al.</i> 2008. <i>Cell. Immunol.</i> 5:189. 9. Rubinstein MP, <i>et al.</i> 2006. <i>P. Natl. Acad. Sci. USA</i> 103:9166.
Gene ID	16168

Product Data



Mouse IL-15 induces the proliferation of CTLL2 mouse cells. The ED₅₀ for this effect is 2.5 – 15 ng/mL.

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