

GMP Recombinant Human IL-15 (carrier-free)

Catalog# / Size	570314 / 25 µg 570316 / 100 µg
Other Names	Interleukin 15, Interleukin-15, IL15, MGC9721
Description	<p>IL-15 was discovered in the supernatant from a 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. Interleukin-15 (IL-15) is a regulatory cytokine, and it is produced by dendritic cells, epithelial cells, human stromal cell line (IMTLH), fibroblasts, and monocytes. IL-15 plays an important role in immune response and shares many similar functions as IL-2, for example, stimulating 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, activates human neutrophils, 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. IL-15 binds to heterotrimeric receptors composed of IL-15Rα, IL-15Rβ, and IL-15Rγ. IL-15 shares with IL-2 the receptor chains β and γ. IL-15 is normally not secreted in soluble form but is held on the cell surface bound to a unique receptor, IL-15Rα, especially on dendritic cells. Cell-bound IL-15 then is presented in trans to T cells and NK cells and is recognized by the γ receptor on these cells; such recognition maintains cell survival and intermittent proliferation.</p>

Product Details

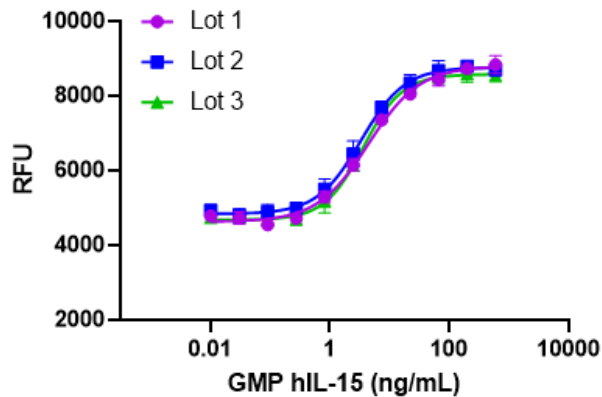
Source	Human IL-15, amino acid Asn49-Ser162 (Accession # P40933), was expressed in <i>E.coli</i> .
Molecular Mass	The 114 amino acid recombinant protein has a predicted molecular mass of approximately 12.8 kD. The DTT-reduced and non-reduced protein migrates at approximately 11 kD and 7 kD by SDS-PAGE, respectively. The predicted N-terminal amino acid is Asn.
Purity	>95%, as determined by Coomassie stained SDS-PAGE
Formulation	0.1 µm filtered protein solution is in PBS.
Endotoxin Level	Less than 0.1 EU per µg protein as determined by the LAL method
Concentration	500 µg/mL
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week or stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ = 2.0 - 10 ng/mL as measured by its ability to induce proliferation of MO7e human megakaryocytic leukemic cells. Deep Blue Cell Viability™ Kit (Cat. No. 424701) is used to measure the proliferation.
Application	Bioassay Cell Cultures
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are validated in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .
Disclaimer	<p>GMP Recombinant Proteins. BioLegend GMP recombinant proteins are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research or <i>ex vivo</i> cell processing use. Not for use in diagnostic or therapeutic procedures. Our processes include:</p> <ul style="list-style-type: none">• Batch-to-batch consistency• Material traceability• Documented procedures• Documented employee training• Equipment maintenance and monitoring records• Lot-specific certificates of analysis• Quality audits per ISO 13485:2016• QA review of released products

BioLegend GMP recombinant proteins are manufactured and tested in accordance with USP Chapter

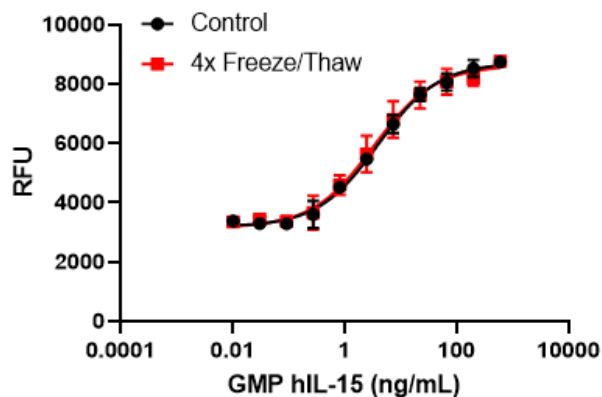
Antigen Details

Structure	13 kD non-glycosylated polypeptide
Distribution	IL-15 is expressed by DC, epithelial cells, human stromal cell line (IMTLH), fibroblasts, and monocytes.
Function	IL-15 stimulates the proliferation of activated T cells, NK cells and B cells. IL-15 induces immunoglobulin synthesis by B cells stimulated by anti-IgM or CD40 ligand. In addition, IL-15 promotes the development of dendritic cells, activates human neutrophils, and induces the production of proinflammatory cytokines from macrophages.
Interaction	T lymphocytes, NK cells
Ligand/Receptor	IL-15R α , IL-15R β and IL-15 γ c
Bioactivity	Measured by its ability to induce proliferation of MO7e human megakaryocytic leukemic cells
Cell Type	Hematopoietic stem and progenitors
Biology Area	Cell Biology, Immunology, Innate Immunity, Stem Cells
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none"> 1. Grabstein K, et al. 1994. Science. 264:965-8. 2. Ma A, et al. 2006. Annu Rev Immunol. 24:657-79. 3. Meresse B, et al. 2004. Immunity. 21:357-66. 4. Armitage RJ, et al. 1995. J Immunol. 154:483-90. 5. Pulendran B, et al. 2004. Eur J Immunol. 34:66-73. 6. Rathé C, et al. 2004. J Leuko Biol. 76:162-8. 7. Bouchard A, et al. 2004. J Leuko Biol. 75 893-900. 8. Tang F, et al. 2008. Cell Immunol. 5:189-96. 9. Rubinstein MP, et al. 2006. Proc Natl Acad Sci U S A. 103:9166-71.
Gene ID	3600

Product Data



GMP recombinant human IL-15 induces proliferation of MO7e human megakaryocytic leukemic cells in a dose-dependent manner. The ED₅₀ range for this effect is 2.0 - 10 ng/mL.



Stability Testing for GMP Recombinant Human IL-15. GMP recombinant human IL-15 was aliquoted in PBS at 0.2 mg/mL. One aliquot was frozen and thawed four times (4x Freeze/Thaw), and compared to a control kept at 4°C (control). The samples were tested in a proliferation assay with MO7e human megakaryocytic leukemic cells.

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