

Recombinant Human IL-15 (carrier-free)

Catalog# / Size
570308 / 500 µg
570302 / 10 µg
570304 / 25 µg
570306 / 100 µg

Regulatory Status RUO

Other Names Interleukin 15, Interleukin-15, IL15, MGC9721

Description 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 (1). 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 (2). IL-15 plays an important role in immune response and shares many functions with IL-2, for example, stimulating the proliferation of activated T cells (1, 2), NK cells (3) and B cells, and inducing immunoglobulin synthesis by B cells stimulated by anti-IgM or CD40 ligand (4). In addition, IL-15 promotes the development of dendritic cells (5), activates human neutrophils (6, 7) and induces the production of proinflammatory cytokines from macrophages (8). 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-15R α , IL-15R β , and IL-15R γ c. IL-15 shares with IL-2 the receptor chains β and γ c. IL-15 is normally not secreted in soluble form but is held on the cell surface bound to a unique receptor, IL-15R α , 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 c receptor on these cells; such recognition maintains cell survival and intermittent proliferation (9).

Product Details

Source Human IL-15, amino acids Asn49-Ser162 (Accession# NM_000585), was expressed in *E. coli*.

Molecular Mass The 114 amino acid recombinant protein has a predicted molecular mass of 12,773 Da. The DTT-reduced protein migrates at approximately 9kDa and the non-reduced protein migrates at approximately 7kDa by SDS-PAGE. The N-terminal amino acid is Asn.

Purity Purity is >98%, as determined by Coomassie stained SDS-PAGE.

Formulation 0.22 µm filtered protein solution is in PBS.

Endotoxin Level Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.

Concentration 10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our [Concentration and Expiration Lookup](#) or [Certificate of Analysis](#) online tools.

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% 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 and stored at -20°C or colder for up to 3 months. **Avoid repeated freeze/thaw cycles.**

Activity ED₅₀ = 2 - 10 ng/ml, corresponding to a specific activity of 0.1 - 0.5 x 10⁶ units/mg, as determined by the dose dependent stimulation of MO7e cell proliferation.

The specific activity of recombinant human IL-15 is approximately 3.51 x 10⁴ IU/µg when compared against the WHO Reference Reagent for Human Interleukin-15 (NIBSC code: 95/554) as determined by the dose dependent stimulation of MO7e cell proliferation.

For more information on specific activity, please visit the [Recombinant Protein Unit Conversions page](#).

Application [Bioassay](#)

Recommended Usage Use when high specific biological activity is required.

Application Notes

This IL-15 protein is biologically active and can be used for *in vitro* assays.

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 or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified 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.

Application References

(PubMed link indicates BioLegend citation)

1. Correia DV, *et al.* 2011. *Blood* 118:992. (BA) [PubMed](#)

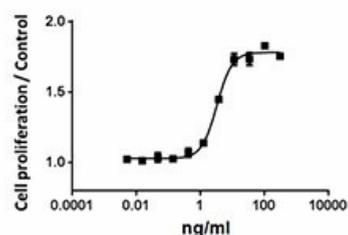
Product Citations

1. Foltz JA, *et al.* 2018. *Cancers (Basel)*. 10.: [PubMed](#)
2. Gamiel M, *et al.* 2018. *Immunity*. 48:951. [PubMed](#)
3. Zorro MM, *et al.* 2020. *J Autoimmun.* 108:102422. [PubMed](#)
4. Vidard L, *et al.* 2019. *J Immunol.* 203:676. [PubMed](#)
5. Correia DV, *et al.* 2011. *Blood*. 118:992. [PubMed](#)
6. Marco Barros R, *et al.* 2016. *Cell*. 167: 203-218. [PubMed](#)

Antigen Details

Structure	13 kD single 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 (1, 2), NK cells (3) and B cells, and inducing immunoglobulin synthesis by B cells stimulated by anti-IgM or CD40 ligand (4). In addition, IL-15 promotes the development of dendritic cells (5), activates human neutrophils (6, 7) and induces the production of proinflammatory cytokines from macrophages (8).
Bioactivity	stimulatory activities on the proliferation, survival and activation of T lymphocytes and NK cells, and the pathogenesis of rheumatoid arthritis via activating T cells and induces IL-17 production
Cell Sources	adherent peripheral blood mononuclear cells, fibroblasts and epithelial cells
Cell Targets	T lymphocytes, NK cells
Receptors	IL-15R α , IL-15R β and IL-15 γ c
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, <i>et al.</i> <i>Science</i> 264:965-968 1994.2. Ma A, <i>et al.</i> <i>Annu Rev Immunol</i> 24:657-679 2006.3. Meresse B, <i>et al.</i> <i>Immunity</i> 21:357-366 2004.4. Armitage RJ <i>et al.</i> <i>J Immunol</i> 154:483-490 1995.5. Pulendran B, <i>et al.</i> <i>Eur. J. Immunol.</i> 34:66-73 2004.6. Bouchard A, <i>et al.</i> <i>J. Leukoc. Biol.</i> 76:162-168 2004.7. 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>, <i>P. Natl. Acad. Sci. USA</i> 103:9166-9171 2006.
Gene ID	3600

Product Data



MO7e cell proliferation induced by human IL-15.

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