

# Cytokines

## Mouse Recombinant IL-15



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### Interleukin 15

Catalog # 78080  
78080.1

10 µg  
100 µg

## Product Description

Interleukin 15 (IL-15) is a four alpha-helix bundle cytokine with many similar properties to IL-2, with which it shares components of its receptor. IL-15 is produced by antigen-presenting cells, T cells, and B cells, as well as epithelial and stromal cells (Jabri & Abadie). The IL-15 receptor is a heterotrimeric receptor composed of IL-15R $\alpha$ , the high-affinity receptor for IL-15, as well as IL-2/IL-15Rb (CD122) and common gamma chain (CD132). IL-15 binds to IL-15R $\alpha$  receptor and can then be presented in trans to IL-2/IL-15Rb and common gamma chain on other cells. Trans-presentation is thought to be the major mechanism by which IL-15-mediated responses occur in mice, although may not be necessary in humans (Castillo & Schluns). The cytoplasmic domains of IL-2/IL-15Rb and common gamma chain mediate signaling to activate JAK/STAT and PI3K pathways. IL-15 supports the survival and proliferation of CD8+ T cells, and promotes homeostasis of memory T cells. IL-15 also promotes the survival and differentiation of NK cells and regulates their cytolytic activity (Ma et al.).

## Product Information

**Alternative Names:** IL-T, Interleukin-15  
**Accession Number:** P48346  
**Amino Acid Sequence:** MNWIDVRYDL EKIESLIQSI HIDTTLTYDS DFHPSCKVTA MNCFLLELQV ILHEYSNMTL NETVRNVLYL ANSTLSSNKN VAESGCKECE ELEEKTFTEF LQSFIRIVQM FINTS  
**Predicted Molecular Mass:** 13.4 kDa  
**Species:** Mouse  
**Cross Reactivity:** Human, Rat  
**Formulation:** Lyophilized from a sterile filtered aqueous solution containing sodium phosphate, pH 7.5.  
**Source:** E. coli

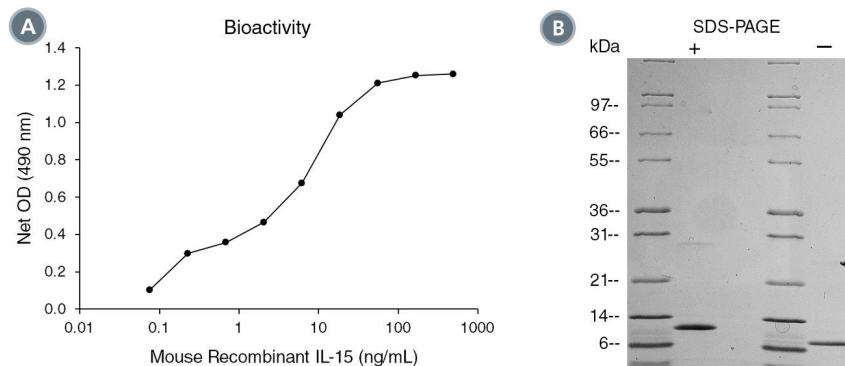
## Specifications

**Activity:** The specific activity is  $\geq 5 \times 10^4$  units/mg ( $EC_{50} \leq 20$  ng/mL) as determined by a cell proliferation assay of CTLL-2 cells.  
**Purity:**  $\geq 95\%$   
**Endotoxin Level:** Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is  $\leq 1$  EU/µg protein.

## Preparation and Storage

**Storage:** Store at -20°C to -80°C.  
**Stability:** Stable as supplied for 12 months from date of receipt.  
**Preparation:** Centrifuge vial before opening. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.  
NOTE: If reconstituted product will be used immediately BSA is not required.

## Data



(A) The biological activity of Mouse Recombinant IL-15 was tested by its ability to promote the proliferation of CTLL-2 cells. Cell proliferation was measured after 65 hours of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the protein at which cell proliferation is at 50% of maximum. The EC50 in the example above is 4.1 ng/mL.

(B) 1 µg of Mouse Recombinant IL-15 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant IL-15 has a predicted molecular mass of 13.4 kDa.

## Related Products

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## References

- Castillo EF & Schluns KS. (2012) Regulating the immune system via IL-15 transpresentation. *Cytokine* 59(3): 479–90.
- Jabri B & Abadie V. (2015) IL-15 functions as a danger signal to regulate tissue-resident T cells and tissue destruction. *Nat Rev Immunol* 15(12): 771–83.
- Ma A et al. (2006) Diverse functions of IL-2, IL-15, and IL-7 in lymphoid homeostasis. *Annu Rev Immunol* 24: 657–79.

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