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Human Recombinant IL-15

Interleukin 15

Catalog #78031.1	10 µg
Catalog #78031	100 µg
Catalog #78031.2	500 µg
Catalog #78031.3	1000 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. The IL-15 receptor is a heterotrimeric receptor composed of IL-15Ra (the high-affinity receptor for IL-15) as well as IL-2/15Rb (CD122) and common gamma chain (CD132). IL-15 binds to IL-15Rα receptor and can then be presented in trans to IL-2/15Rb 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 et al.). The cytoplasmic domains of IL-2/15Rb and common gamma chain mediate signaling to activate JAK/STAT and PI3K pathways. IL-15 supports the survival and proliferation of naïve CD4+ and 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:	ILT, Interleukin15
Accession Number:	P40933
Amino Acid Sequence:	MNWVNVISDL KKIEDLIQSM HIDATLYTES DVHPSCKVTA MKCFLLELQV ISLESGDASI HDTVENLIIL ANNSLSSNGN VTESGCKECE ELEEKNIKEF LQSFVHIVQM FINTS
Predicted Molecular Mass:	12.9 kDa
Species:	Human
Product Formulation:	Lyophilized from a sterile-filtered aqueous solution containing sodium bicarbonate, pH 8.5.
Source:	E. coli
Purity:	≥ 97%

Specifications

Activity:	The specific activity is ≥ 1 x 10^6 units/mg (EC50 ≤ 1 ng/mL), as determined by a cell proliferation assay using CTLL-2 cells.
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.1 EU/µg protein.

Preparation and Storage

Stability and Storage:	Store at -20 to -80°C. Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data

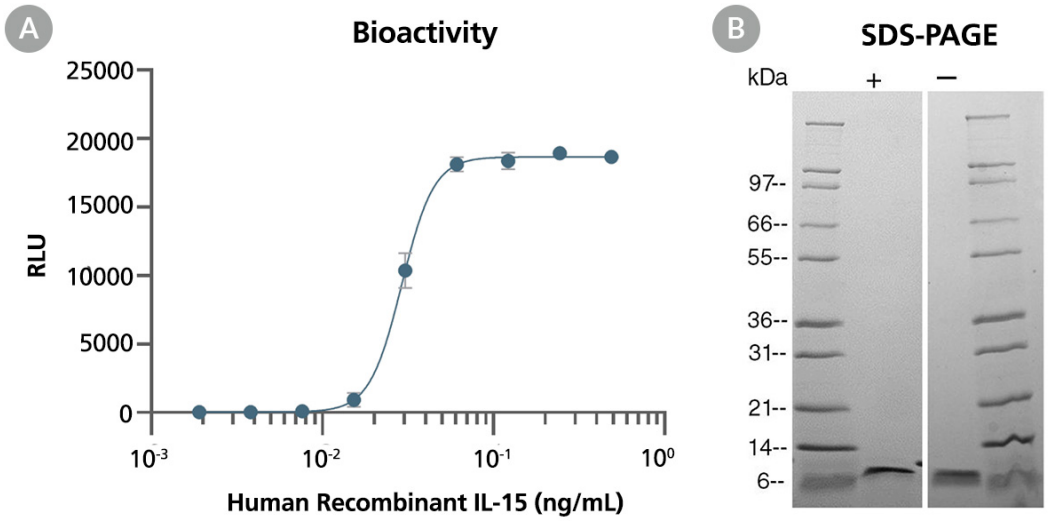

Figure 1. Biological Activity and Molecular Mass of Human Recombinant IL-15

(A) The biological activity of Human Recombinant IL-15 was tested by its ability to promote the proliferation of CTLL2 cells. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is ≤ 1 ng/mL. (B) 1 g of Human Recombinant IL-15 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-15 has a predicted molecular mass of 12.9 kDa.

Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Castillo et al. (2012) Regulating the immune system via IL-15 trans-presentation. Cytokine 59(3): 479.

Ma A et al. (2006) Diverse functions of IL-2, IL-15, and IL-7 in lymphoid homeostasis. Annu Rev Immunol 24: 657–79.