

Cytokines

Human Recombinant IL-15



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Interleukin 15

Catalog #	78031.1	10 µg
	78031	100 µg
	78031.2	500 µg
	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-15R α 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:	IL-T, Interleukin-15
Accession Number:	P40933
Amino Acid Sequence:	MNWNVVISDL KKIEDLIQSM HIDATLYTES DVHPSCKVTA MKCFLLELQV ISLESGDASI HDTVENLIIL ANNSLSSNGN VTESGCKECE ELEEKNIKEF LQSFVHIVQM FINTS
Predicted Molecular Mass:	12.9 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized from a sterile-filtered aqueous solution containing sodium bicarbonate, pH 8.0.
Source:	E. coli

Specifications

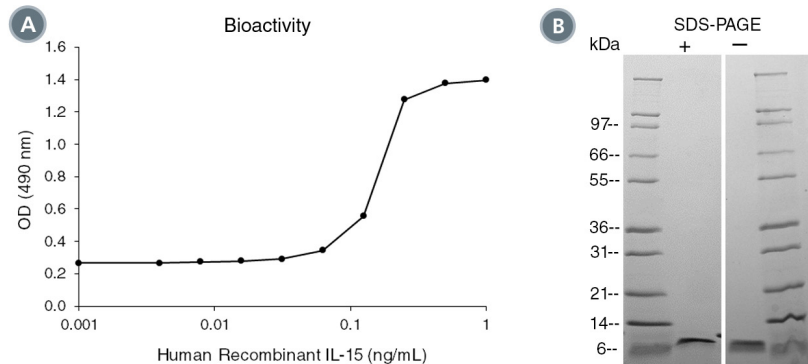
Activity:	The specific activity is $\geq 2 \times 10^5$ units/mg ($EC_{50} \leq 5$ ng/mL) as determined by a cell proliferation assay using CTLL-2 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g protein.

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. 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



(A) The biological activity of Human Recombinant IL-15 was tested by its ability to promote the proliferation of CTLL-2 cells growing in the presence of other cytokines and stimuli. Cell proliferation was measured after 65 hours of culture using a fluorometric assay method. 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 0.13 - 0.19 ng/mL.

(B) 1 μ 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, 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.

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