

Technical Data Sheet

Recombinant Mouse IL-12 p70

Product Information

Material Number:	554592
Size:	5 µg
Reactivity:	QC Testing: Mouse
Storage Buffer:	Lyophilized powder

Description

Interleukin-12 (IL-12) is a potent regulator of cell-mediated immune responses. Biologically active IL-12 is secreted by activated B lymphocytes and macrophages as a 70 kD heterodimeric glycoprotein comprised of disulfide-bonded 35 kD (p35) and 40 kD (p40) subunits. IL-12 binds to specific high affinity receptors and can; i) stimulate the growth of activated CD4+ and CD8+ T cells and natural killer (NK) cells; ii) promote the development of proinflammatory/Th1-like CD4+ cells and cytotoxic CD8+ T cells; iii) increase the lytic activity of NK cells, lymphokine-activated killer cells and antibody dependent cell-mediated cytotoxic cells, and; iv) induce NK and T cells to secrete large amounts of the proinflammatory cytokine, IFN-γ.

Formulation and Purity:

The recombinant mouse IL-12 was lyophilized in a solution comprised of 0.22 µm sterile-filtered aqueous buffered solution containing 2.0 mg/ml Biotechnology grade, low endotoxin bovine serum albumin, and containing no preservatives. The mass ratio of carrier-protein to mouse IL-12 is 40:1 or 40 µg BSA to 1 µg IL-12. Recombinant mouse IL-12 was found to be > 95% pure by SDS-PAGE and an absorbance assay based on the Beer-Lambert law. The endotoxin level is ≤ 0.1 ng per µg of mouse IL-12, as measured in a chromogenic LAL assay.

Preparation and Storage

Store product at -80°C prior to use or for long term storage of stock solutions.

For long term storage of lyophilized vials or stock solutions, store at -80°C. Lyophilized IL-12 can be reconstituted to 50 µg/ml with sterile water. To minimize possible loss, the buffer should be added directly through the vial rubber stopper using a needle syringe. The product can be diluted in sterile neutral buffer containing no less than 1 to 10 mg/ml carrier protein such as human or bovine albumin, aliquoted into polypropylene microtubes and frozen at -80°C for future use. Carrier proteins should be pre-screened for possible effects in an appropriate experimental system. Carrier proteins may effect experimental results due to toxicity, high endotoxin levels or possible blocking activity. For in vitro biological assay use, we recommend carrier-protein concentrations of 1 - 2 mg/ml. For use as an ELISA standard we recommend carrierprotein concentrations of 5 - 10 mg/ml. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. The product should not be diluted to less than 50 µg/ml for long term storage.

Note: Carrier proteins should be pre-screened for possible effects in an appropriate experimental system. Carrier proteins may effect experimental results due to toxicity, high endotoxin levels or possible blocking activity.

Application Notes

Application

Bioassay	Routinely Tested
ELISA Standard	Routinely Tested

Recommended Assay Procedure:

Biological Activity Range: Measured by 2D6 cell proliferation

Specific Activity: 0.2 - 2.0 × 10⁹ Units*/mg

ED50: 5 - 50 pg/ml

Observed dose response: > 200 fold

*Unit is defined as the amount of material required to stimulate a half-maximal response at cytokine saturation

ELISA Standard: This mouse IL-12 is useful as a quantitative standard for measuring mouse IL-12 protein levels in an IL-12 specific sandwich ELISA with the purified 9A5 antibody (Cat. No. 554658) as a capture antibody and the biotinylated C17.8 (Cat. No. 554476) as the detection antibody. To obtain linear standard curves, doubling dilutions of this mouse IL-12 standard from 4000-30 pg/ml should be included in each ELISA plate. For specific methodology, please visit the protocols section or chapter on ELISA in the Immune Function Handbook, both of which are

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Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
554658	Purified Rat Anti-Mouse IL-12 p70	0.5 mg	9A5
554476	Biotin Rat Anti-Mouse IL-12 (p40/p70)	0.5 mg	C17.8

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

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