Technical Data Sheet

Recombinant Mouse IL-12 (p40)

Product Information

Material Number:	**554594**
Size:	2 µg
Concentration:	40 µg/ml
Storage Buffer:	Frozen aqueous buffered solution containing BSA and glycerol.

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. The IL-12 p40 monomer shares amino acid sequence homology with the IL-6 receptor. It has been reported that activated PBMC produce a large excess of IL-12 p40 monomer over the bioactive p70 heterodimer. The IL-12 p40 monomer has been reported to inhibit binding of IL-12 p70 to the IL-12 receptor, but with 20X less effectiveness than the IL-12 p40 homodimer.

Formulation and Purity:
Recombinant mouse IL-12 p40 is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered Dulbecco's PBS (pH 7.2) and no preservatives. The recombinant mouse IL-12, p40 is > 95% pure, as determined by SDS-PAGE, and an absorption assay based on the Beer-Lambert law. The recombinant is not tested for endotoxin or sterility.

Preparation and Storage

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Store product at -80°C prior to use or for long term storage of stock solutions.
Rapidly thaw and quick-spin product prior to use. Avoid multiple freeze-thaws of product. Upon initial thawing the product should be aliquoted into polypropylene microtubes and frozen at -80°C for future use. Alternatively, the product can be diluted in sterile neutral buffer containing not less than 0.5 - 10 mg/ml carrier protein** such as human or bovine albumin, aliquoted and stored at -80°C. For use as an ELISA standard we recommend carrier-protein concentrations of 5 -10 mg/ml.
NOTE: Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. Carrier proteins should be pre-screened for possible effects in an appropriate experimental system. Carrier proteins may affect experimental results due to toxicity, high endotoxin levels or possible blocking activity.

Application Notes

Application

ELISA Standard	Routinely Tested

Recommended Assay Procedure:

ELISA Standard: The recombinant mouse IL-12 p40 protein is useful as a quantitative standard for measuring mouse IL-12 protein levels in an IL-12 specific sandwich ELISA. For this assay purified anti-mouse IL-12 p40/70, clone C15.6 (Cat. No. 551219) can be used as the capture antibody when paired with biotinlyated anti-mouse IL-12 p40/p70, clone C17.8 (Cat No. 554476) for detection. To obtain standard curves, doubling dilutions of mouse IL-12 p40 ranging from ~4,000 to 30 pg/ml are recommended for inclusion 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 located on our web site, www.bdbiosciences.com.

Suggested Companion Products

Catalog Number	Name	Size	Clone
551219	Purified Rat Anti-Mouse IL-12 p40/p70	1.0 mg	C15.6
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

D'Andrea A, Aste-Amezaga M, Valiante NM, Ma X, Kubin M, Trinchieri G. Interleukin 10 (IL-10) inhibits human lymphocyte interferon gamma-production by suppressing natural killer cell stimulatory factor/IL-12 synthesis in accessory cells. *J Exp Med.* 1993; 178(3):1041-1048. (Biology)
D'Andrea A, Rengaraju M, Valiante NM, et al. Production of natural killer cell stimulatory factor (interleukin 12) by peripheral blood mononuclear cells. *J Exp Med.* 1992; 176(5):1387-1398. (Biology)

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Ling P, Gately MK, Gubler U, et al. Human IL-12 p40 homodimer binds to the IL-12 receptor but does not mediate biologic activity. *J Immunol.* 1995; 154(1):116-127. (Biology)
Schoenhaut DS, Chua AO, Wolitzky AG, et al. Cloning and expression of murine IL-12. *J Immunol.* 1992; 148(11):3433-3440. (Biology)
Zeh HJ III, Tahara H, Lotze MT. Interleukin-12. In: Thomson AW, ed. *The Cytokine Handbook.* London: Academic Press Limited; 1994:239-256. (Biology)