Technical Data Sheet

Recombinant Mouse IL-4

Product Information

Material Number:	**550067**
Size:	10 µg
Concentration:	200 µg/ml
Reactivity:	QC Testing: Mouse
Storage Buffer:	Frozen aqueous buffered solution containing BSA and glycerol.

Description

Interleukin-4 (IL-4) is a species-specific cytokine which promotes the proliferation, differentiation and cell-surface protein modulation of B lymphocytes. IL-4 is responsible for activities previously assigned to BCGF, BCDF, BSF-2 and TCGF-2. Mouse IL-4 is a 14 kD protein containing 120 amino acid residues. Recombinant mouse IL-4 (Cat. No. 550067) is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution, glycerol and bovine serum albumin, with no preservatives. Recombinant mouse IL-4 is ≥ 95% pure as determined by SDS-PAGE, and an absorbance assay based on the Beers-Lambert law. The endotoxin level is ≤ 0.1 ng/µg of mouse IL-4, 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.
Rapidly thaw and quick-spin product prior to use.
Avoid multiple freeze-thaws of product.
This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

ELISA Standard	Routinely Tested
Bioassay	Tested During Development

Recommended Assay Procedure:

Upon initial thawing, recombinant mouse IL-4 (Cat. No. 550067) should be aliquoted into polypropylene microtubes and frozen at -80°C for future use. Alternatively, the product can be diluted in sterile netural buffer containing not less than 0.5 - 10 mg/mL carrier protein, such as human or bovine serum albumin, aliquoted and stored at -80°C. For use as an ELISA standard, carrier protein concentrations of 5 - 10 mg/mL are recommended. For *in vtiro* biological assays, carrier protein concentrations of 0.5 - 1 mg/mL are suggested. Failure to add carrier protein or store at the indicated temperatures may result in a loss of activity. This product should not be diluted to less than 50 µg/mL for long term storage. Carrier proteins should be pre-screened for possible effects in each investigator's experimental system. Carrier proteins may have an undesired influence on experimental results due to toxicity, high endotoxin levels or possible blocking activity.

ELISA Standard: Mouse IL-4 is useful as a quantitative standard for measuring mouse IL-4 protein levels in an IL-4 specific sandwich ELISA with the purified 11B11 antibody (Cat. No. 554434) as a capture antibody and the biotinylated clone BVD6-24G2 (Cat. No. 554390) as the detection antibody. To obtain linear standard curves, doubling dilutions of the mouse IL-4 standard from ~2,000 to 15 pg/mL should be included with each ELISA plate. This ELISA pair is recommended primarily for measuring cytokine from experimental cell culture systems, not for assay of serum or plasma samples. For measuring IL-4 in serum or plasma, the BD OptEIA™ Mouse IL-4 Set (Cat. No. 555232) is specially formulated and recommended.

Bioassay: Investigators are advised that the Bioassay application is not routinely tested for this material and are highly encouraged to both titrate this material and include appropriate controls in relevant experiments. An activity range of 0.3 - 2.0 x 10^8 units/mg, encompassing an ED50= 50 - 300 pg/mL, has previously been reported using MC/9 indicator cells for proliferation with MTT (3-(4,5-Dimethylthiazol-2-yl) -2,5-diphenyltetrazolium bromide) and a unit defined as the amount of material needed to stimulate a half-maximal response at cytokine saturation.

Suggested Companion Products

Catalog Number	Name	Size	Clone
554434	Purified Rat Anti-Mouse IL-4	0.5 mg	11B11
554390	Biotin Rat Anti-Mouse IL-4	0.5 mg	BVD6-24G2
555232	Mouse IL-4 ELISA Set	20 Plate(s)	(none)

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Product Notices

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

References

Grabstein K, Eisenman J, Mochizuki D, et al. Purification to homogeneity of B cell stimulating factor. A molecule that stimulates proliferation of multiple lymphokine-dependent cell lines. *J Exp Med.* 1986; 163(6):1405-1414. (Methodology)

Lee F, Yokota T, Otsuka T, et al. Isolation and characterization of a mouse interleukin cDNA clone that expresses B-cell stimulatory factor 1 activities and T-cell- and mast-cell-stimulating activities. *Proc Natl Acad Sci U S A.* 1986; 83(7):2061-2065. (Biology)

Noma Y, Sideras P, Naito T, et al.. Cloning of cDNA encoding the murine IgG1 induction factor by a novel strategy using SP6 promoter. *Nature.* 1986; 319(6055):640-646. (Biology)

Paul WE. Interleukin-4: a prototypic immunoregulatory lymphokine. *Blood.* 1991; 77(9):1859-1870. (Biology)

Prussin C, Metcalfe DD. Detection of intracytoplasmic cytokine using flow cytometry and directly conjugated anti-cytokine antibodies. *J Immunol Methods.* 1995; 188(1):117-128. (Methodology)