

Technical Data Sheet

Recombinant Human IL-4

Product Information

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| Material Number: | 554605 |
| Size: | 5 µg |
| Concentration: | 100 µg/ml |
| Reactivity: | QC Testing: Human |
| Storage Buffer: | Frozen aqueous buffered solution containing BSA. |

Description

Interleukin-4 (IL-4) is a potent multifunctional cytokine which can stimulate the growth, differentiation and maintain the viability of certain subsets of B cells and T cells. Human IL-4 is a 15 kD protein containing 129 amino acid residues. Recombinant human IL-4 (Cat No. 554605) is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution, containing bovine serum albumin, with no preservatives. Recombinant human 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 per µg of human 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 human IL-4 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 *in vitro* biological assay use, carrier-protein concentrations of 1 - 2 mg/mL are recommended. For use as an ELISA standard, carrier-protein concentrations of 5 - 10 mg/mL are recommended. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. Recombinant human IL-4 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: Recombinant human IL-4 (Cat. No. 554605) is useful as a quantitative standard for measuring human IL-4 protein levels using sandwich ELISA with purified 8D4-8 (Cat. No. 554515) as a capture antibody and biotinylated MP4-25D2 (Cat. No. 554483) as the detection antibody. To obtain linear standard curves, investigators may want to consider using doubling dilutions of recombinant human IL-4 from 2,000 - 15 pg/mL to be included in each ELISA plate. For measuring human IL-4 in serum or plasma, investigators are highly encouraged to use the BD OptEIA™ Human IL-4 ELISA Set (Cat. No. 555194) or the BD OptEIA™ Human IL-4 ELISA Kit II (Cat. No. 550614).

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 0.4 - 5.0 x 10⁸ units/mg, encompassing an ED50 = 20 - 250 pg/mL, has previously been reported using TF-1 as indicator cells for proliferation, with 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 |
|----------------|--------------------------------|-----------|----------|
| 554515 | Purified Mouse Anti-Human IL-4 | 0.5 mg | 8D4-8 |
| 554483 | Biotin Rat Anti-Human IL-4 | 0.5 mg | MP4-25D2 |
| 555194 | Human IL-4 ELISA Set | 20 plates | (none) |
| 550614 | Human IL-4 ELISA Kit II | 2 plates | (none) |
| 554066 | Streptavidin HRP | 1.0 ml | (none) |
| 555214 | TMB Substrate Reagent Set | each | (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/pharming/protocols for technical protocols.

References

Kitamura T, Takaku F, Miyajima A. IL-1 up-regulates the expression of cytokine receptors on a factor-dependent human hemopoietic cell line, TF-1. *Int Immunol*. 1991; 3(6):571-577. (Biology)

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

Yokota T, Otsuka T, Mosmann T, et al. Isolation and characterization of a human interleukin cDNA clone, homologous to mouse B-cell stimulatory factor 1, that expresses B-cell- and T-cell-stimulating activities. *Proc Natl Acad Sci U S A*. 1986; 83(16):5894-5898. (Biology)

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