

Technical Data Sheet

Recombinant Mouse IL-5

Product Information

Material Number:	554581
Size:	5 µg
Concentration:	100 µg/ml
Reactivity:	QC Testing: Mouse
Storage Buffer:	Frozen aqueous buffered solution containing BSA and glycerol.

Description

Interleukin-5 (IL-5) is a lymphokine responsible for the activities attributed to eosinophil differentiating factor (EDF), B cell growth factor II (BCGFII), and T cell-replacing factor (TRF). IL-5 induces eosinophil differentiation and promotes eosinophil survival and activation. Mouse IL-5 presents as a 35-37 kD homodimer (in non-reduced gel). IL-5 promotes the growth and differentiation of hematopoietic cells, primarily of the eosinophil lineage. IL-5 stimulates the generation of cytotoxic T cells and supports the growth and differentiation of pre-activated B cells. Recombinant mouse IL-5 (Cat. No. 554581) 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-5 is $\geq 95\%$ 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-5, 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
Blocking	Tested During Development

Recommended Assay Procedure:

Upon initial thawing, recombinant mouse IL-5 (Cat. No. 554581) 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 serum albumin, aliquoted and stored at -80°C. 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. This product should not be diluted to less than 2 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 mouse IL-5 (Cat. No. 554581) can be useful as a quantitative standard for measuring mouse IL-5 protein levels using sandwich ELISA with purified TRFK5 (Cat. No. 554393) as a capture antibody and biotinylated TRFK4 (Cat. No. 554397) as the detection antibody. To obtain linear standard curves, investigators may want to consider using doubling dilutions of recombinant mouse IL-5 from 2000 - 15 pg/mL to be included in each ELISA plate. For measuring mouse IL-5 in serum or plasma, investigators are highly encouraged to use the BD OptEIA™ Mouse IL-5 ELISA Set (Cat. No. 555236).

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 - 2.0 x 10⁸ units/mg, encompassing an ED50= 50 - 250 pg/mL, has previously been reported using TF-1 indicator cells for proliferation, with a unit defined as the amount of material needed to stimulate a half-maximal response at cytokine saturation.

Blocking: Recombinant mouse IL-5 (Cat. No. 554581) can be useful as a blocking control for flow cytometric analysis when used with PE or APC- conjugated TRFK5 antibodies (Cat. No. 554395 and 554396). Investigators are advised that the blocking application is not routinely tested for this material. Intracellular cytokine staining techniques and the use of blocking controls are described in detail by C. Prussin and D. Metcalfe.

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Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
554393	Purified Rat Anti-Mouse/Anti-Human IL-5	0.5 mg	TRFK5
554397	Biotin Rat Anti-Mouse IL-5	0.5 mg	TRFK4
555236	Mouse IL-5 ELISA Set	20 plates	(none)

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

Kinashi T, Harada N, Severinson E, Tanabe T, Sideras P, Konishi M, Azuma C, Tominaga A, Bergstedt-Lindqvist S, Takahashi M. Cloning of complementary DNA encoding T-cell replacing factor and identity with B-cell growth factor II. *Nature*. 1986; 324(6092):70-72. (Biology)

Kitamura T, Tange T, Terasawa T, et al. Establishment and characterization of a unique human cell line that proliferates dependently on GM-CSF, IL-3, or erythropoietin. *J Cell Physiol*. 1989; 140(2):323-334. (Methodology)

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)

Sideras P, Noma T, Honjo T. Structure and function of interleukin 4 and 5. *Immunol Rev*. 1988; 102:189-212. (Biology)

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