Technical Data Sheet

Recombinant Human IL-5

Product Information

Material Number:	**554606**
Size:	5 µg
Concentration:	100 µg/ml
Reactivity:	QC Testing: Human
Storage Buffer:	Frozen aqueous buffered solution containing BSA.

Description

Interleukin-5 (IL-5) is the 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. Recombinant human IL-5 is a 28 - 31 kD protein dimer as determined by SDS-PAGE (non-reducing conditions). Recombinant human IL-5 (Cat. No. 554606) 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-5 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-5, as measured in 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
Intracellular block/flow cytometry	Tested During Development

Recommended Assay Procedure:

Upon initial thawing, recombinant human IL-5 (Cat. No. 554606) 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 *in vitro* biological assay use, carrier-protein concentrations of 0.5 - 1.0 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. The product should not be diluted to less than 1 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-5 (Cat. No 554606) can be useful as a quantitative standard for measuring human IL-5 protein levels using sandwich ELISA with purified JES1-39D10 (Cat. No. 554488) as a capture antibody and biotinylated JES1-5A10 (Cat. No.554491) as the detection antibody. To obtain linear standard curves, investigators may want to consider using doubling dilutions of recombinant human IL-5 from 2,000 - 15 pg/mL to be included in each ELISA plate. For measuring human IL-5 in serum or plasma, investigators are highly encouraged to use the BD OptEIA™ Human IL-5 ELISA Set (Cat. No. 555202).

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 0.25 - 1.0 x 10^8 units/mg, encompassing an ED50 = 100 - 400 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.

Blocking*:* Recombinant human IL-5 (Cat. No 554606) can be used as a blocking control for flow cytometric analysis when used with fluorochrome-conjugated antibodies, such as PE-conjugated JES1-39D10 (Cat. No. 559332). 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

Catalog Number	Name	Size	Clone
554488	Purified Rat Anti-Human IL-5	0.5 mg	JES1-39D10
554491	Biotin Rat Anti-Human IL-5	0.5 mg	JES1-5A10
555202	Human IL-5 ELISA Set	20 plates	(none)
559332	PE Rat Anti-Human IL-5	100 tests	JES1-39D10

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

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. (Methodology: Bioassay)

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: IC/FCM Block)

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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