

Technical Data Sheet

Recombinant Human IL-3

Product Information

Material Number:	554604
Size:	10 µg
Concentration:	200 µg/ml
Reactivity:	QC Testing: Human
Storage Buffer:	Frozen aqueous buffered solution containing BSA and glycerol.

Description

Interleukin-3 (IL-3) is a species specific colony stimulating factor which stimulates colony formation of megakaryocytes, neutrophils, and macrophages from bone marrow cultures. Human IL-3 is a 15 kD protein containing 133 amino acid residues. Recombinant human IL-3 (Cat. No. 554604) is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution containing glycerol and bovine serum albumin, with no preservatives. Recombinant human IL-3 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 per µg of human IL-3, 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
Intracellular block/flow cytometry	Tested During Development

Recommended Assay Procedure:

Upon initial thawing, recombinant human IL-3 (Cat. No. 554604) 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 - 1.0 mg/mL carrier protein, such as human or bovine serum albumin, aliquoted and stored at -80°C . 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 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-3 (Cat. No. 554604) is useful as a quantitative standard for measuring human IL-3 protein levels using sandwich ELISA with purified BVD8-3G11 (Cat. No. 554672) as a capture antibody and biotinylated BVD3-1F9 (Cat. No. 554674) as the detection antibody. To obtain linear standard curves, investigators may want to consider using doubling dilutions of recombinant human IL-3 from 2000 - 15 pg/mL to be included in each ELISA plate.

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 $0.3 - 1.4 \times 10^8$ units/mg, encompassing an $\text{ED}_{50} = 70 - 300$ 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-3 (Cat. No. 554604) can be used as a blocking control for flow cytometric analysis when used with PE-conjugated BVD3-1F9 antibody (Cat. No. 554676). 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.Metcalf.

Suggested Companion Products

Catalog Number	Name	Size	Clone
554672	Purified Rat Anti-Human IL-3	0.5 mg	BVD8-3G11
554674	Biotin Rat Anti-Human IL-3	0.5 mg	BVD3-1F9
554676	PE Rat Anti-Human IL-3	0.1 mg	BVD3-1F9
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

Frendl G. Interleukin 3: from colony-stimulating factor to pluripotent immunoregulatory cytokine. *Int J Immunopharmacol.* 1992; 14:421-430. (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. (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)

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