

Technical Data Sheet

Recombinant Human IL-10

Product Information

Material Number:	554611
Size:	5 µg
Concentration:	100 µg/mL
Storage Buffer:	Frozen aqueous buffered solution containing BSA and glycerol.

Description

Interleukin-10 (IL-10), originally known as Cytokine Synthesis Inhibitory Factor (CSIF), is an 18.5 kD protein that shares over 80% sequence homology with the Epstein-Barr Virus protein BCRF1. The reported biological activities of IL-10, which may be interrelated, include inhibition of macrophage-mediated cytokine synthesis, suppression of the delayed type hypersensitivity response, and stimulation of the TH2 cell response, which results in elevated antibody production. The net effect of IL-10 action appears to be the inhibition of proinflammatory T cell mediated immunity.

Formulation and Purity

Recombinant human IL-10 is supplied as a frozen, sterile-filtered aqueous buffered solution containing glycerol and biotechnology grade, low endotoxin bovine serum albumin, with no preservatives. Recombinant human IL-10 was purified by immunoaffinity chromatography and was found to be > 95% pure by SDS-PAGE analysis, and an absorbance assay based on the Beers-Lambert law. The endotoxin level is ≤ 0.1 ng per µg of hIL-10, 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.

Upon initial thawing the product 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. Carrier proteins should be pre-screened for possible effects in an appropriate experimental system. Carrier proteins may effect experimental results due to toxicity, high endotoxin levels or possible blocking activity. For in vitro biological assay use, we recommend carrier-protein concentrations of ≥ 1 mg/ml. For use as an ELISA standard we recommend carrier-protein concentrations of 5 - 10 mg/ml. 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 50 µg/ml for long term storage. Note: Carrier proteins should be pre-screened for possible effects in an appropriate experimental system. Carrier proteins may effect experimental results due to toxicity, high endotoxin levels or possible blocking activity.

Application Notes

Application

Bioassay	Routinely Tested
ELISA Standard	Tested During Development
Intracellular block/flow cytometry	Tested During Development

Recommended Assay Procedure:

Bioassay: The activity range is measured in a proliferation assay using MC/9 indicator cells. Cells were co-stimulated with recombinant mouse IL-4 (Cat. No. 550067) at 50 pg/ml and were incubated for 24 hours prior to being pulsed. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

Specific Activity: 0.5 - 3.3 x 10⁷ Units/mg (Unit is defined as the amount of material required to stimulate a half-maximal response at cytokine saturation).

ED50: 0.3 - 2.0 ng/ml

Observed dose response: >250 fold

ELISA Standard: Recombinant human IL-10 is useful as a quantitative standard for measuring human IL-10 protein levels in an IL-10 specific sandwich ELISA with the purified JES3-9D7 antibody (Cat. No. 554705) as a capture antibody and the biotinylated JES3-12G8 antibody (Cat.

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No. 554499) as the detection antibody. To obtain linear standard curves, doubling dilutions of this human IL-10 standard from ~2,000 to 15 pg/ml should be included in each ELISA plate. For specific methodology, please visit the protocols section or chapter on ELISA in the Immune Function Handbook, both of which are posted on our web site, www.bdbiosciences.com. Note: This ELISA pair is recommended primarily for measuring cytokine from experimental cell culture systems. These ELISA reagents are not recommended for assaying serum or plasma samples. For measuring human IL-10 in serum or plasma the BD OptEIA™ Human IL-10 ELISA Set (Cat. No. 555157) and the BD OptEIA™ Human IL-10 ELISA Kit (Cat. No. 550613) are specially formulated and recommended.

Ligand Blocking Control for Immunofluorescent Staining of Cytokines: Recombinant human IL-10 can be used as a blocking control to demonstrate the specificity of IL-10 staining by our conjugated anti-IL-10 antibodies (for example Cat. No. 554498, Cat. No. 554706, Cat. No. 554707). For specific methodology, please visit the protocols section or chapter on intracellular staining in the Immune Function Handbook, both of which are posted on our web site, www.bdbiosciences.com.

Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
554705	Purified Rat Anti-Human IL-10	0.5 mg	JES3-19F1
550067	Recombinant Mouse IL-4	10 µg	(none)
554499	Biotin Anti-Human and Viral IL-10	0.5 mg	JES3-12G8
555157	Human IL-10 ELISA Set	20 plates	(none)
550613	Human IL-10 ELISA Kit II	2 plates	(none)

Product Notices

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

References

Howard M, O'Garra A, Ishida H, de Waal Malefyt R, de Vries J. Biological properties of interleukin 10. *J Clin Immunol.* 1992; 12(4):239-247. (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. (Biology)
Vieira P, de Waal-Malefyt R, Dang MN, et al. Isolation and expression of human cytokine synthesis inhibitory factor cDNA clones: homology to Epstein-Barr virus open reading frame BCRF1. *Proc Natl Acad Sci U S A.* 1991; 88(4):1172-1176. (Biology)