

Technical Data Sheet

Recombinant Human IL-12 p40

Product Information

Material Number:	554633
Size:	5 µg
Concentration:	100 µg/ml
Storage Buffer:	Frozen aqueous buffered solution containing BSA.

Description

Interleukin-12 (IL-12) is a potent regulator of cell-mediated immune responses. Biologically active IL-12 is secreted by activated B lymphocytes and macrophages as a 70 kD heterodimeric glycoprotein comprised of disulfide-bonded 35 kD (p35) and 40 kD (p40) subunits. The IL-12 p40 monomer shares amino acid sequence homology with the IL-6 receptor. It has been reported that activated PBMC produce a many fold excess of IL-12 p40 monomer over the bioactive p70 heterodimer. The IL-12 p40 monomer has been reported to inhibit binding of IL-12 p70 to the IL-12 receptor, but with 20X less effectiveness than the IL-12 p70 homodimer.

Recombinant human IL-12 p40 protein was purified by immunoaffinity chromatography. The recombinant 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/µg of human IL-12 p40, as measured in a chromogenic LAL assay.

This recombinant protein is routinely tested by ELISA. Other applications were tested at BD Biosciences Pharmingen during product development only or reported in the literature.

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.

Recombinant human IL-12 p40 monomer is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution (pH 7.4) and containing at least 1.0 mg/ml biotechnology grade, low endotoxin bovine serum albumin, with no preservatives.

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 – 1.0 mg/ml carrier protein** such as human or bovine albumin, aliquoted and stored at -80°C. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity.

Application Notes

Application

ELISA Standard	Routinely Tested
----------------	------------------

Recommended Assay Procedure:

ELISA Standard: This recombinant human IL-12 p40 protein is useful as a quantitative standard for an IL-12 p40 sandwich ELISA. For this assay, the purified C8.3 capture antibody (Cat. No. 551227) can be paired with the biotinylated C8.6 detection antibody (Cat. No. 554660). For specific methodology please visit the protocols sections or the chapter on ELISA in the Immune Function Handbook, both of which are posted on our web site, www.bdbiosciences.com.

Note 1: The ELISA antibody pair is recommended primarily for measuring cytokine from experimental cell culture systems. These ELISA reagents are not recommended for assay of serum or plasma samples. For measuring human IL-12p40 in serum or plasma our Human IL-12p40 OptEIA™ Set (Cat. No. 555171) or OptEIA Kit II (Cat. No. 551116) is specially formulated and recommended.

Note 2: 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.

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit bdbiosciences.com/how_to_order/

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2006 BD



BD

BD Biosciences

Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
554660	Biotin Mouse Anti-Human IL-12 (p40/p70)	0.5 mg	C8.6
551227	Purified Mouse Anti-Human IL-12 (p40)	1.0 mg	C8.3

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

- D'Andrea A, Aste-Amezaga M, Valiante NM, Ma X, Kubin M, Trinchieri G. Interleukin 10 (IL-10) inhibits human lymphocyte interferon gamma-production by suppressing natural killer cell stimulatory factor/IL-12 synthesis in accessory cells. *J Exp Med.* 1993; 178(3):1041-1048.(Biology)
- D'Andrea A, Rengaraju M, Valiante NM, et al. Production of natural killer cell stimulatory factor (interleukin 12) by peripheral blood mononuclear cells. *J Exp Med.* 1992; 176(5):1387-1398.(Biology)
- Ling P, Gately MK, Gubler U, et al. Human IL-12 p40 homodimer binds to the IL-12 receptor but does not mediate biologic activity. *J Immunol.* 1995; 154(1):116-127.(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: IC/FCM Block)
- Schoenhaut DS, Chua AO, Wolitzky AG, et al. Cloning and expression of murine IL-12. *J Immunol.* 1992; 148(11):3433-3440.(Biology)
- Zeh HJ III, Tahara H, Lotze MT. Interleukin-12. In: Thomson AW, ed. *The Cytokine Handbook*. London: Academic Press Limited; 1994:239-256.(Biology)