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Certificate of Analysis and Data Sheet Recombinant Human Interleukin-4

Catalog No.
228-10929

Source:
Escherichia Coli

Synonyms

BCGF, BCDF, B cell stimulating factor, BSF-1, Lymphocyte stimulatory factor 1, IL-4, MGC79402, Binetrakin, Pitrakinra.

Introduction

IL4 is a pleiotropic cytokine produced by activated T cells. IL4 is a ligand for interleukin 4 receptor. The interleukin 4 receptor also binds to IL13, which may contribute to many overlapping functions of this cytokine and IL13. STAT6, a signal transducer and activator of transcription, has been shown to play a central role in mediating the immune regulatory signal of this cytokine. This gene, IL3, IL5, IL13, and CSF2 form a cytokine gene cluster on chromosome 5q, with this gene particularly close to IL13. IL4, IL13 and IL5 are found to be regulated coordinately by several long-range regulatory elements in an over 120 kilobase range on the chromosome. Two alternatively spliced transcript variants of this gene encoding distinct isoforms have been reported.

Description

Interleukin-4 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 130 amino acids and having a molecular mass of 15000 Dalton.
The IL-4 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White Lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a concentrated (1mg/ml) solution in water containing no additives.

Purity

Greater than 98.0% as determined by (a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Solubility

It is recommended to reconstitute the lyophilized Interleukin-4 in sterile 18MΩ-cm H₂O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Stability

Lyophilized Interleukin-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IL4 should be stored at 4°C between 2-7 days and for future use below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Amino acid sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Met-His-Lys-Cys-Asp.

Biological Activity

The ED50 as determined by the dose-dependant stimulation of TF-1 cells is < 0.2 ng/ml, corresponding to a Specific Activity of 5x1,000,000 IU/mg.

Protein content

Protein quantitation was carried out by two independent methods

1. UV spectroscopy at 280 nm using the absorbency value of 0.594 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a standard solution of IL-4 as a Reference Standard.

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