

Recombinant Human Interleukin-4 (IL-4 Human)

Source: E.Coli

Catalog No.: CYT-211

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.

Synonyms:

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

Physical Appearance:

Sterile Filtered White Lyophilized (freeze-dried) powder.

Formulation:

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

Solubility:

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

Stability:

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 avoid freeze-thaw cycles.

Purity:

Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

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 less than 0.2 ng/ml, corresponding to a Specific Activity of 5x10⁶ 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.

Usage:

Product is furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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