



Interleukin-4, human recombinant (rHuIL-4)

Catalog No: 50444
Lot No: XXXXX
Source: *E. coli*
Synonyms: BCGF, BCDF, B cell stimulating factor, BSF-1, Lymphocyte stimulatory factor 1, IL-4, MGC79402, Binetrakin, Pitrakinra

Background

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. IL-4 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 µm filtered concentrated (1 mg/ml) solution in PBS, pH 7.4.

Solubility

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

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.

Purity

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

Amino Acid Sequence

MHKCDITLQE IIKTLNSLTE QKTLCTELTV TDIFAASKNT TEKETFCAA TVLRQFYSHH EKDTRCLGAT AQQFHRHKQL
IRFLKRLDRN LWGLAGLAGL NSCPVKEANQ STLENFLERL KTIMREKYSK CSS

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 5,000,000 IU/mg.

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