

Recombinant Rat Interleukin 4

Cat. No. II4-96R Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Interleukin-4 produced in <i>E. Coli</i> is a single, non-glycosylated polypeptide chain containing 140 amino acids and having a molecular mass of 16 kDa. The IL-4 is purified by proprietary chromatographic techniques.
Species	Rat
Source	E.coli
Description	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.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Met-His-Gly-Cys-Asn.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 98.0% as determined by:(a) Analysis by RP-HPLC. (b) Analysis by SDS-

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Formulation	Lyophilized from a concentrated (1mg/ml) solution in water containing no additives.
Solubility	It is recommended to reconstitute the lyophilized I-TAC in sterile 18MΩ-cm H ₂ O not less than 100g/ml, which can then be further diluted to other aqueous solutions.
Specific Activity	The ED ₅₀ as determined by the dose-dependant proliferation of Con A activated rat spleen cells is < 1.5 ng/ml, corresponding to a Specific Activity of 6.6 x 10 ⁵ IU/mg.
Protein Content	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 0.2 as the extinction coefficient for a 0.1% (1 mg/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.

GENE INFORMATION

Gene Name	Il4 interleukin 4 [<i>Rattus norvegicus</i>]
Synonyms	Il4; interleukin 4; Il4e12
Gene ID	287287
mRNA Refseq	NM_201270
Protein Refseq	NP_958427
UniProt ID	P20096
Chromosome	10q22

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Location

Pathway

Allograft rejection; Autoimmune thyroid disease; Fc epsilon RI signaling pathway; Jak-STAT signaling pathway; T cell receptor signaling pathway

Function

cytokine activity; growth factor activity; interleukin-4 receptor binding; protein binding

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