

Recombinant Porcine Interleukin-4 (rp IL-4)

Synonyms: BCGF, BCDF, B cell stimulating factor, BSF-1, Lymphocyte stimulatory factor 1, MGC79402, Binetrakin, Pitrakina.

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 IL 13, which may contribute to many overlapping functions of this cytokine and IL 13. STAT 6, 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: Recombinant porcine IL-4 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 110 amino acids and having a molecular mass of 12615 Dalton. The rpIL-4 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a concentrated (1 mg/ml) solution in water containing no additives. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rp IL-4 in sterile H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rp IL-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C . Upon reconstitution rp IL-4 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 95.0% as determined by RP-HPLC and 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-Ly-Lys-Asp.

Biological Activity: The ED₅₀ = 1 to 4 ng/ml. The biological activity is determined by measuring the dose-dependent proliferation of human TF-1 cells. A concentration range of 0.1 to 10.0 ng/ml is effective for most *in vitro* applications.

Protein content: Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.218 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.

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<i>small</i>	2 µg	Cat.N°	16340042
<i>medium</i>	10 µg	Cat.N°	16340043
<i>large</i>	50 µg	Cat.N°	16340045
<i>x-large</i>	250 µg	Cat.N°	16340047

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