

# Recombinant Porcine Interleukin 4

**Cat. No.** IL4-84P    **Lot. No.** (See product label)

## SPECIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Product Overview</b>    | Recombinant Porcine IL-4 produced in <i>E. Coli</i> is a single, non-glycosylated polypeptide chain containing 110 amino acids and having a molecular mass of 12615 Dalton. The IL-4 is purified by proprietary chromatographic techniques.                                                                                                                                                                                                                                                                                               |
| <b>Species</b>             | Pig                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Source</b>              | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description</b>         | IL4 is a ligand for interleukin 4 receptor. The interleukin 4 receptor also binds to 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. |
| <b>Amino Acid Sequence</b> | The sequence of the first five N-terminal amino acids was determined and was found to be Met-His-Ly-Lys-Asp.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Physical Appearance</b> | Sterile Filtered White lyophilized (freeze-dried) powder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Purity</b>              | Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Formulation</b>         | Lyophilized from a concentrated (1 mg/ml) solution in water containing no additives.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <b>Solubility</b>        | It is recommended to reconstitute the lyophilized Interleikin-4 in sterile 18 MΩ-cm H <sub>2</sub> O not less than 100 g/ml, which can then be further diluted to other aqueous solutions.                                                                                                                                                                                                 |
| <b>Specific Activity</b> | The ED50 range= 1 to 4ng/ml. The biological activity is determined by measuring the dose dependent proliferation of human TF-1 cells. A concentration range of 0.1 to 10.0ng/ml is effective for most in vitro applications.                                                                                                                                                               |
| <b>Protein Content</b>   | 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% (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. |
| <b>Stability</b>         | 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. Please prevent freeze-thaw cycles.                                                                                                                                    |

## GENE INFORMATION

|                       |                                         |
|-----------------------|-----------------------------------------|
| <b>Gene Name</b>      | IL4 interleukin 4 [ <i>Sus scrofa</i> ] |
| <b>Synonyms</b>       | interleukin 4; IL4                      |
| <b>Gene ID</b>        | 397225                                  |
| <b>mRNA Refseq</b>    | NM_214123                               |
| <b>Protein Refseq</b> | NP_999288                               |

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| <b>UniProt ID</b>          | Q04745                                                                                                                                                                                                                      |
| <b>Chromosome Location</b> | 2                                                                                                                                                                                                                           |
| <b>Pathway</b>             | Allograft rejection; Asthma; Autoimmune thyroid disease; Cytokine-cytokine receptor interaction; Fc epsilon RI signaling pathway; Hematopoietic cell lineage; Jak-STAT signaling pathway; T cell receptor signaling pathway |

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