

## Recombinant Rat Interleukin-4 (rr IL-4)

**Synonyms:** BCGF, BCDF, B cell stimulating factor, BSF-1

**Introduction:** IL-4 is a pleiotropic cytokine that regulates diverse T and B cell responses including cell proliferation, survival and gene expression. Produced by mast cells, T cells and bone marrow stromal cells, IL-4 regulates the differentiation of naive CD4+ T cells into helper Th2 cells, characterized by their cytokine-secretion profile that includes secretion of IL-4, IL-5, IL-6, IL-10, and IL-13, which favor a humoral immune response. Another dominant function of IL-4 is the regulation of immunoglobulin class switching to the IgG1 and IgE isotypes. Excessive IL-4 production by Th2 cells has been associated with elevated IgE production and allergy.

**Description:** Recombinant Rat IL-4 produced in *E. Coli* is a single, non-glycosylated, polypeptide chain containing 126 amino acids and having a molecular mass of 14.1 kDa. The rr IL-4 is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

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

**Formulation:** Lyophilized from a 0.22 µm filtered solution in PBS pH 7.1  
The aliquotes of 1 µg and 2 µg contain Trehalose 5% (w/vol) for better recovery

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

**Stability:** Lyophilized rr IL-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rr 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 SDS-PAGE / silver stain.

**Amino Acid Sequence:** MHGCNDSPLR EIINTLNQVT EKGTPCTEMF VPDVLTATRN TTENELICRA  
SRVLRKFYFP RDVPPCLKNK SGVLGELRKL CRGVSGLSL RSCVTNESTL TTLKDFLESL KSILRGKYLQ  
SCTSMS

**Biological Activity:** tested by its ability to induce rat IL-4R induced STAT activation in transfected Ba/F3 cells.

**Endotoxicity:** The endotoxin level is less than 1 EU / µg determined by LAL method

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|                 |        |        |          |
|-----------------|--------|--------|----------|
| <i>small</i>    | 2 µg   | Cat.N° | 13340042 |
| <i>medium</i>   | 10 µg  | Cat.N° | 13340043 |
| <i>large</i>    | 50 µg  | Cat.N° | 13340045 |
| <i>x-large</i>  | 250µg  | Cat.N° | 13340047 |
| <i>xx-large</i> | 1000µg | Cat.N° | 13340048 |

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