

## Interleukin-4

### Murine, Recombinant (rmIL-4)

Expressed in *E.coli*

Cat. No. CRP0836

Lot. No. (See product label)

### PRODUCT INFORMATION

**Description:** 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<sup>+</sup> 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.

**Amino-Acid Sequence:** Globular protein containing 120 amino acid residues.

**M. W. :** 13.5kDa

**Recombinant:** Expressed in *E.coli*

**Purity:** >95% as determined by SDS-PAGE.

**Formulation:** Sterile filtered lyophilized powder

**Specific Activity:** The ED50 was determined by the dose-dependent proliferation of murine HT-2 cells is < 2.0ng/ml, corresponding to a specific activity of > 5 x 10<sup>5</sup>IU/mg.

**Endotoxin:** Less than 1 IEU/μg determined by LAL test.

**Reconstitution:** It is recommended to reconstitute the lyophilized rmIL-4 in sterile 18MΩ-H<sub>2</sub>O containing at least 0.1% human serum albumin or bovine serum albumin to prepare a stock solution of no less than 5μg/ml of the cytokine.

**Storage:** Lyophilized protein is stable for a few weeks at room temperature, but best stored at -20°C. Reconstituted murine IL-4 should be stored in working aliquots at -20°C. Aliquot to avoid repeated freeze-thaw cycles.

### FOR RESEARCH USE ONLY



Crystal structure of human IL-4(2INT).

### GENE INFORMATION

**Gene Name:** [il4](#)

**Gene Alias:** IgG1; IL-4

**Gene Type:** protein coding

**mRNA Refseq:** [NM\\_021283](#)

**Protein Refseq:** [NP\\_067258](#)

**GeneID:** [3565](#)

**UniProt ID:** P07750

**Chromosome Location:** 11 B1.3; 11 29.0 cM

**Pathway:** Cytokine-cytokine receptor interaction ; Fc epsilon RI signaling pathway ; Hematopoietic cell lineage ; Jak-STAT signaling pathway ; T cell receptor signaling pathway

**Function:** interleukin-4 receptor binding; protein binding

### REFERENCES

1. Howard M, Paul WE (1982). "Interleukins for B lymphocytes". *Lymphokine Res.* 1 (1): 1–4.
2. Yokota T et al. (1986). "Isolation and characterization of a human interleukin cDNA clone, homologous to mouse B-cell stimulatory factor 1, that expresses B-cell- and T-cell-stimulating activities". *Proc. Natl. Acad. Sci. U.S.A.* 83 (16): 5894–8.
3. Izuhara K, Arima K, Yasunaga S (2003). "IL-4 and IL-13: their pathological roles in allergic diseases and their potential in developing new therapies.". *Current drug targets. Inflammation and allergy* 1 (3): 263–9.