

## Interleukin-4

### Human, Recombinant (rHuIL-4)

Expressed in *P. Pichia*

Cat. No. CRP0835

Lot. No. (See product label)

### PRODUCT INFORMATION

**Description:** Interleukin 4 is a pleiotropic cytokine produced by activated T cells, mast cells, and basophils. It was initially identified as a B cell differentiation factor (BCDF), as well as a B cell stimulatory factor (BSF1). Subsequent to the molecular cloning and expression of both human and mouse IL-4, numerous other functions have been described on B cells as well as other hematopoietic and nonhematopoietic cells, including T lymphocytes, monocytes, macrophages, mast cells, myeloid and erythroid progenitors, fibroblasts, endothelial cells, etc. IL-4 exhibits anti-tumor effects both in vivo and in vitro.

**M. W. :** 30kDa

**Recombinant:** Expressed in *P. Pichia*

**Purity:** ≥97%, as determined by SDS-PAGE and HPLC method.

**Formulation:** rHuIL-4 was lyophilized from a 0.2µm filtered solution in 20mM Phosphate Buffer.

**Specific Activity:** Measured in a cell proliferation assay using a human factor-dependent cell line, TF-1. The specific activity shall be not less than 1×10<sup>7</sup>IU/mg.

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

**Reconstitution:** It is recommended to reconstitute the lyophilized rHuIL-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 samples are stable for greater than six months from date of receipt at -20°C to -70°C. Upon reconstitution, this cytokine can be stored under sterile conditions at 2-8°C for one month or at -20°C to -70°C in a manual defrost freezer for three months without detectable loss of activity. 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:** BSF1; IL-4; BCGF1; BCGF-1; MGC79402

**Gene Type:** protein coding

**mRNA Refseq:** [NM\\_000589](#)

**Protein Refseq:** [NP\\_000580](#)

**MIM:** [147780](#)

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

**UniProt ID:** P05112

**Chromosome Location:** 5q31.1

**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.