

## DATASHEET

Version 20181206

# IL-4, Human

**Cat. No.:** Z02925-10

**Size:** 10.0 ug

**Synonyms:** IL-4, B cell growth factor-1 (BCGF-1), B cell stimulatory factor-1 (BSF-1), B cell differentiation factor (BCDF), T cell growth factor-2 (TCGF-2), Mast-cell growth factor-2 (MCGF-2)

### Description:

Interleukin-4 (IL-4) is a pleiotropic cytokine regulates diverse T and B cell responses including cell proliferation, survival, and gene expression. It has important effects on the growth and differentiation of different immunologically competent cells. Interleukin-4 is produced by mast cells, T cells, and bone marrow stromal cells. IL-4 regulates the differentiation of native CD4<sup>+</sup> T cells (Th0 cells) into helper Th2 cells, and regulates the immunoglobulin class switching to the IgG1 and IgE isotypes. IL-4 has numerous important biological functions including stimulating B-cells activation, T-cell proliferation and CD4<sup>+</sup> T-cells differentiation to Th2 cells. It is a key regulator in hormone control and adaptive immunity. IL-4 also plays a major role in inflammation response and wound repair via activation of macrophage into M2 cells. IL-4 is stabilized by three disulphide bonds forming a compact globular protein structure. Four alpha-helix bundle with left-handed twist is dominated half of the protein structure with 2 overhand connections and fall into a 2-stranded anti-parallel beta sheet.

Recombinant human IL-4 (rhIL-4) is a 129 amino acid protein expressed in mammalian CHO system. The approximate molecular weight is 15 kDa analyzed by non-reducing SDS-PAGE.

### Amino Acid Sequence:

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00001 HKCDITLQEI IKTLNSLTEQ KTLCTELTVT DIFAASKNTT
00041 EKETFCAAT VLRQFYSHHE KDTRCLGATA QQFHRHKQLI
00081 RFLKRLDRNL WGLAGLNSCP VKEANQSTLE NFLERLKTIM
00121 REKYSKCSS
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**Source:** CHO

**Species:** Human

**Biological Activity:** ED<sub>50</sub> < 0.25 ng/ml, measured in a cell proliferation assay using TF-1 human erythroleukemic cells, corresponding to a specific activity of >4 x 10<sup>6</sup> units/mg

**Molecular Weight:** 15 kDa, observed by non-reducing SDS-PAGE.

**Formulation:** Lyophilized after extensive dialysis against PBS.

**Reconstitution:** Reconstituted in ddH<sub>2</sub>O or PBS at 100 µg/ml.

**Purity:** > 95% as analyzed by SDS-PAGE and HPLC.

**Endotoxin Level:** <0.2 EU/µg, determined by LAL method.

**Storage:** Lyophilized recombinant human Interleukin 4 (IL-4) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rhIL-4 should be stable up to 1 week at 4°C or up to 2 months at -20°C □