

# PRODUCT DATA SHEET



Bioworld Technology, Inc.

## Recombinant IL-4, Human

Catalog Number: BK0245-1mg

Source: CHO

Quantity: 1mg

### 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+ 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+ T-cells differentiation to Th2 cells. It is a key regulator in hormone control and adaptive immunity[2]. 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.

### Molecular Weight:

15 kDa, observed by non-reducing SDS-PAGE.

### Purity:

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

### Biological Activity:

ED50 < 0.25 ng/ml, measured in a cell proliferation

assay using TF-1 human erythroleukemic cells, corresponding to a specific activity of  $>4 \times 10^6$  units/mg

### Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

### Formulation:

Lyophilized after extensive dialysis against PBS.

### AA Sequence:

HKCDITLQEIIKTLNSLTEQKTLCT-  
ELTVTDIFAASKNTTEKETFCRAATVLRQFYSH-  
HEKDTRCLGA-  
TAQQFHRHKQLIRFLKRLDRNLWGLAG-  
LNSCPVKEANQSTLENFLERLKTIMREKYSKCSS

### Endotoxin:

<0.2 EU/ $\mu$ g, determined by LAL method.

### Reconstitution:

Reconstituted in ddH<sub>2</sub>O or PBS at 100  $\mu$ g/ml.

### Storage:

Lyophilized recombinant human Interleukin 4 (IL-4) remains stable up to 6 months at -80° 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.

### Usage:

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