Data Sheet (Cat.No.TMPS-00080)

TargetMol

IL-4 Protein, Rat, Recombinant (His)

General Information

Synonyms:	BCGF-1;BCDF;B cell growth factor-1;TCGF-2;BSF-1;B cell stimulatory factor-1;B cell differentiation factor;Mast-cell growth factor-2;T cell growth factor-2;IL4;MCGF-2
Protein Construction:	His23-Ser147
Species:	Rat
Expression Host:	CHO Cells
Accession:	P20096
Molecular Weight:	18~22 kDa (Reducing conditions)

QC Testing

Biological Activity:	ED 50 < 0.2 μg/ml, measured in a proliferationassay using C6 cells.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 0.2 EU/μg of protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 μm filtered solution in PBS.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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. 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.

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