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IL-4

Catalog # PVGS1422

Product Information

Primary Accession	P20096
Species	Rat
Sequence	His23-Ser147
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Biological Activity	ED_{50}
Expression System	CHO
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O or PBS up to 100 □g/ml.
Storage & Stability	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.

Additional Information

Gene ID	287287
Other Names	Interleukin-4, IL-4, B-cell IGG differentiation factor, B-cell growth factor 1, B-cell stimulatory factor 1, BSF-1, Lymphocyte stimulatory factor 1, Il4, Il-4
Target 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.

Protein Information

Name	Il4
Synonyms	Il-4
Function	Participates in at least several B-cell activation processes as well as of other cell types. It is a costimulator of DNA-synthesis. It induces the expression of class II MHC molecules on resting B-cells. It enhances both secretion and cell surface expression of IgE and IgG1. It also regulates the expression of the low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes. Positively regulates IL31RA expression in macrophages. Stimulates autophagy in dendritic cells by interfering with mTORC1 signaling and through the induction of RUFY4.
Cellular Location	Secreted.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.