

## IL-4 Protein, Mouse (Q136D, Y139D, sf9, His)

<b>Cat. No.:</b>	HY-P73215
<b>Synonyms:</b>	Interleukin-4; IL-4; B-cell stimulatory factor 1; BSF-1
<b>Species:</b>	Mouse
<b>Source:</b>	Sf9 insect cells
<b>Accession:</b>	P07750 (M1-S140,Q136D,Y139D)
<b>Gene ID:</b>	16189
<b>Molecular Weight:</b>	Approximately 19 kDa

### PROPERTIES

<b>AA Sequence</b>	<p>M G L N P Q L V V I    L L F F L E C T R S    H I H G C D K N H L    R E I I G I L N E V</p> <p>T G E G T P C T E M    D V P N V L T A T K    N T T E S E L V C R    A S K V L R I F Y L</p> <p>K H G K T P C L K K    N S S V L M E L Q R    L F R A F R C L D S    S I S C T M N E S K</p> <p>S T S L K D F L E S    L K S I M D M D D S</p>
<b>Biological Activity</b>	<p>1. Measured by its binding ability in a functional ELISA. Immobilized IL-4 Protein, Mouse (sf9, Q136D, Y139D, His) at 10 µg/mL (100 µl/well) can bind rat IL4R-Fc and the EC<sub>50</sub> is 0.12-0.29 µg/mL.</p> <p>2. Measured by its ability to inhibit mIL4-dependent proliferation of HT-2 cells and the ED<sub>50</sub> is typically 2-10 ng/mL in the presence of 2 ng/mL mouse IL4.</p>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 8.5. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	Interleukin 4 (IL-4) Protein is a pleiotropic cytokine secreted primarily by mast cells, T-cells, eosinophils, and basophils that plays a role in regulating antibody production, hematopoiesis and inflammation, and the development of effector T-cell responses. IL-4 gene encodes two distinct isoforms through alternatively spliced transcription.
-------------------	--

---

IL-4 is a ligand for interleukin 4 receptor (IL4R). IL4R also binds to IL-13, which may contribute to many overlapping functions of IL-4 and IL-13. Upon binding to IL4, IL4R receptor dimerizes either with the common IL2R gamma chain (IL2RG) to produce the type 1 signaling complex, located mainly on hematopoietic cells, or with the IL13RA1 to produce the type 2 complex, which is expressed also on nonhematopoietic cells. Engagement of both types of receptors initiates JAK3 and to a lower extent JAK1 phosphorylation leading to activation of the signal transducer and activator of transcription 6 (STAT6). IL4 is considered an important cytokine for tissue repair, counterbalancing the effects of proinflammatory type 1 cytokines, IL-4 also promotes allergic airway inflammation. Moreover, IL-4, a type 2 cytokine, mediates and regulates a variety of human host responses such as allergic, anti-parasitic, wound healing, and acute inflammation. IL-4 induces the expression of class II MHC molecules on resting B-cells, enhances both secretion and cell surface expression of IgE and IgG1 and regulates the expression of low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes. IL-4 has been reported to promote resolution of neutrophil-mediated acute lung injury as well as positively regulates IL31RA expression in macrophages and stimulates autophagy in dendritic cells by interfering with mTORC1 signaling and through the induction of RUFY4. In addition, IL-4 plays a critical role in higher functions of the normal brain, such as memory and learning. IL-4 is implicated in several diseases, including asthma (multiple); autoimmune disease (multiple); hepatitis B; hepatitis C; and pancreatic cancer (multiple)<sup>[1][2][3][4][5][6]</sup>.

---

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA