IL-4 Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P78466
Synonyms:	IL4; IL-4; interleukin 4; MGC79402; pitrakinra; B cell growth factor 1; BCDF; BCGF1; BCGF-1; binetrakin; BSF1; BSF-1; BSF-1
Species:	Human
Source:	HEK293
Accession:	P05112 (H25-S153)
Gene ID:	3565
Molecular Weight:	23-25 kDa

PROPERTIES

Biological Activity	Immobilized Human IL-4 at 0.5μg/ml (100μl/well) on the plate. Dose response curve for Human IL-4 R alpha, hFc Tag with the EC_{50} of 18.4ng/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	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.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The cytokine IL-4, primarily secreted by mast cells, T-cells, eosinophils, and basophils, plays a crucial role in regulating antibody production, hematopoiesis, inflammation, and the development of effector T-cell responses. IL-4 induces the expression of class II MHC molecules on resting B-cells and enhances both the secretion and cell surface expression of IgE and IgG1, contributing to immune responses. Additionally, IL-4 regulates the expression of the low-affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes and positively regulates IL31RA expression in macrophages. Furthermore, IL-4 stimulates autophagy in dendritic cells by interfering with mTORC1 signaling and inducing RUFY4. Beyond its immunological functions, IL-4 plays a critical role in higher functions of the normal brain, such as memory and learning. Upon binding to its receptor, IL-4R, IL-4 initiates signaling through two types of receptor complexes, type 1 mainly on hematopoietic cells and type 2 on nonhematopoietic cells, activating JAK3 and to a lesser extent JAK1 phosphorylation, leading to the activation of the signal transducer and activator of transcription 6/STAT6. IL-4 interacts with both IL-4R and IL13RA1 to mediate its diverse physiological effects.

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

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