

IL-4 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P70653
Synonyms:	Interleukin-4; IL-4; IL4; B-cell IgG differentiation factor; B-cell growth factor 1; B-cell stimulatory factor 1; BSF-1; IGG1 induction factor; Lymphocyte stimulatory factor 1
Species:	Mouse
Source:	HEK 293
Accession:	P07750 (H21-S140)
Gene ID:	16189
Molecular Weight:	15-19 kDa

PROPERTIES

AA Sequence	<p> H I H G C D K N H L R E I I G I L N E V 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 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 S T S L K D F L E S L K S I M Q M D Y S </p>
Biological Activity	The cell proliferation assay using M-NFS-60 mouse lymphoblast cells has an ED50 value of 0.035 ng/mL. Mouse IL-4-His on HIS1K Biosensor can bind Mouse IL-4RA-Fc with an affinity constant of 0.001 nM.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer. 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	<p>IL-4 is a T cell-derived growth factor for B cells. In addition to T cells, IL-4 is produced by innate lymphocytes, such as NTK cells, and myeloid cells, such as basophils and mast cells. It is a signature cytokine of type 2 immune response but also has a nonimmune function. Its expression is tightly regulated at several levels, including signaling pathways, transcription factors, epigenetic modifications, microRNA, and long noncoding RNA. Produced by mast cells, T cells and bone marrow stromal cells, IL-4 regulates the differentiation of naive CD4⁺ T cells into helper Th2 cells, characterized by their cytokine-secretion profile that includes secretion of IL-4, IL-5, IL-6, IL-10, and IL-13, which favor a humoral immune response. Another dominant function of IL-4 is the regulation of immunoglobulin class switching to the IgG1 and IgE isotypes. Excessive IL-4 production</p>
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by Th2 cells has been associated with elevated IgE production and allergy^[1].

REFERENCES

[1]. I-Cheng Ho, et al. Regulation of IL-4 Expression in Immunity and Diseases. Adv Exp Med Biol. 2016;941:31-77.

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

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