

Anti-IL-4 Antibody

Catalog # ABO12694

Product Information

Application	WB, IHC-P, E
Primary Accession	P05112
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Interleukin-4(IL4) detection. Tested with WB, IHC-P, ELISA in Human.

Reconstitution Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	3565
Other Names	Interleukin-4, IL-4, B-cell stimulatory factor 1, BSF-1, Binetrakin, Lymphocyte stimulatory factor 1, Pitrakinra, IL4
Calculated MW	17492
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat ELISA , 0.1-0.5 µg/ml, Human, - Western blot, 0.1-0.5 µg/ml, Human
Subcellular Localization	Secreted.
Source	Eukaryota
Protein Name	Interleukin-4(IL-4)
Contents	Each vial contains 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. Carrier free (No BSA) form available in stock. If you want this antibody carrier free please specify Carrier Free" or "No BSA" in your order note. "
Immunogen	E. coli-derived human IL-4 recombinant protein(Position: H25-S153).
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20° C for one year. After reconstitution, at 4° C for one month. It can also

be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the IL-4/IL-13 family.

Protein Information

Name	IL4
Function	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 (PubMed: 1993171 , PubMed: 3016727). Induces the expression of class II MHC molecules on resting B-cells. Enhances both secretion and cell surface expression of IgE and IgG1 (PubMed: 1993171). Also regulates the expression of the low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes (PubMed: 2521231). Positively regulates IL31RA expression in macrophages. Stimulates autophagy in dendritic cells by interfering with mTORC1 signaling and through the induction of RUFY4. In addition, plays a critical role in higher functions of the normal brain, such as memory and learning (By similarity). 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 also expressed on nonhematopoietic cells (PubMed: 10219247 , PubMed: 11526337 , PubMed: 18243101). 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 (PubMed: 7721895).
Cellular Location	Secreted.

Background

Interleukin-4 (IL-4), also known as a B-cell stimulatory factor1 (BSF1), is an immunomodulatory cytokine, which can inhibit the growth of tumour cells.¹ The human cDNA contains a single open reading frame encoding a protein of 153 amino acids, including a putative signal peptide. IL-4 may act as an autocrine growth factor in pancreatic cancer cells and also give rise to the possibility that cancer-derived IL-4 may suppress cancer-directed immunosurveillance in vivo in addition to its growth-promoting effects, thereby facilitating pancreatic tumor growth and metastasis.¹ The mouse and human genes and their protein products show structural and functional similarities. The human IL-4 gene, which occurs as a single copy in the haploid genome, is mapped on chromosome 5.² The standard product used in this kit is recombinant human IL-4, consisting of 130 amino acids with the molecular mass of 14KDa.

Images



Figure. Western blot analysis of IL-4 using anti- IL-4 antibody (ABO12694). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.Lane: Recombinant Human IL-4 Protein 0.5ng,After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- IL-4 antigen affinity purified polyclonal antibody

(Catalog # ABO12694) at 0.5 µg/mL overnight at 4 °C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for IL-4 at approximately 14KD. The expected band size for IL-4 is at 14KD.

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