

Anti-IL12A Picoband Antibody

Catalog # ABO12902

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9R103
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for IL12A detection. Tested with WB, IHC-P, Direct ELISA in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	84405
Other Names	Interleukin-12 subunit alpha, IL-12A, Cytotoxic lymphocyte maturation factor 35 kDa subunit, CLMF p35, IL-12 subunit p35, IL12a
Calculated MW	24246
Application Details	Western blot, 0.1-0.5 μ g/ml Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μ g/ml Direct ELISA, 0.1-0.5 μ g/ml
Subcellular Localization	Secreted.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Immunogen	E. coli-derived rat IL12A recombinant protein (Position: R23-S215).
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20 °C; for one year. After r ° Constitution, 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.

Protein Information

Name	IL12a
Function	Heterodimerizes with IL12B to form the IL-12 cytokine or with EBI3/IL27B to form the IL-35 cytokine. IL-12 is primarily produced by professional antigen-presenting cells (APCs) such as B-cells and dendritic cells (DCs) as well as macrophages and granulocytes and regulates T-cell and natural killer-cell responses, induces the production of interferon-gamma (IFN-gamma), favors the differentiation of T-helper 1 (Th1) cells and is an important link between innate resistance and adaptive immunity. Mechanistically, exerts its biological effects through a receptor composed of IL12R1 and IL12R2 subunits. Binding to the receptor results in the rapid tyrosine phosphorylation of a number of cellular substrates including the JAK family kinases TYK2 and JAK2. In turn, recruited STAT4 gets phosphorylated and translocates to the nucleus where it regulates cytokine/growth factor responsive genes (By similarity). As part of IL-35, plays essential roles in maintaining the immune homeostasis of the liver microenvironment and also functions as an immune-suppressive cytokine (By similarity). Mediates biological events through unconventional receptors composed of IL12RB2 and gp130/IL6ST heterodimers or homodimers. Signaling requires the transcription factors STAT1 and STAT4, which form a unique heterodimer that binds to distinct DNA sites (By similarity).
Cellular Location	Secreted {ECO:0000250 UniProtKB:P29459}.

Background

Interleukin-12 subunit alpha (IL-12 p35) is a protein that in humans is encoded by the IL12A gene. This gene encodes a subunit of a cytokine that acts on T and natural killer cells, and has a broad array of biological activities. The cytokine is a disulfide-linked heterodimer composed of the 35-kD subunit encoded by this gene, and a 40-kD subunit that is a member of the cytokine receptor family. This cytokine is required for the T-cell-independent induction of interferon (IFN)-gamma, and is important for the differentiation of both Th1 and Th2 cells. The responses of lymphocytes to this cytokine are mediated by the activator of transcription protein STAT4. Nitric oxide synthase 2A (NOS2A/NOS2) is found to be required for the signaling process of this cytokine in innate immunity.

Images

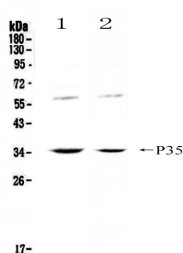


Figure 1. Western blot analysis of IL12A using anti-IL12A antibody (ABO12902). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human Hela cell lysates, Lane 2: human SW620 cell lysates. 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-IL12A antigen affinity purified polyclonal antibody (Catalog # ABO12902) 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 IL12A at approximately 35KD. The expected band size for IL12A is at 25KD.

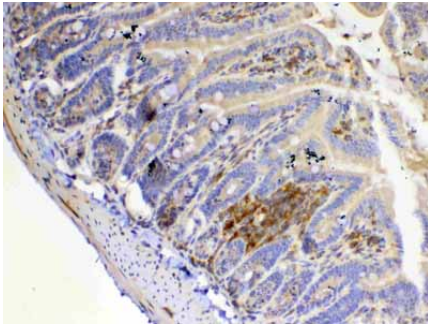


Figure 2. IHC analysis of IL12A using anti-IL12A antibody (ABO12902). IL12A was detected in paraffin-embedded section of mouse small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-IL12A Antibody (ABO12902) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

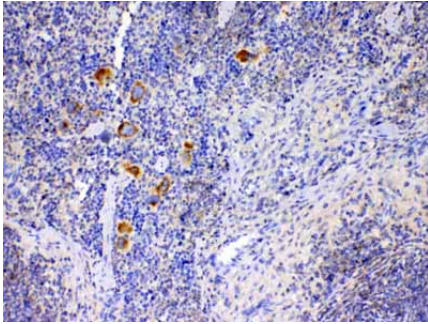


Figure 3. IHC analysis of IL12A using anti-IL12A antibody (ABO12902). IL12A was detected in paraffin-embedded section of mouse spleen tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-IL12A Antibody (ABO12902) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

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