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antibody and ELISA experts

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Anti-IL12A Antibody Picoband®

Catalog Number: A00918-1

About Il12a

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.

Overview

Product Name	Anti-IL12A Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-IL12A Antibody Picoband® catalog # A00918-1. Tested in ELISA, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q9R103

Technical Details

Immunogen	E. coli-derived rat IL12A recombinant protein (Position: R23-S215).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized

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Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml ELISA, 0.1-0.5ug/ml

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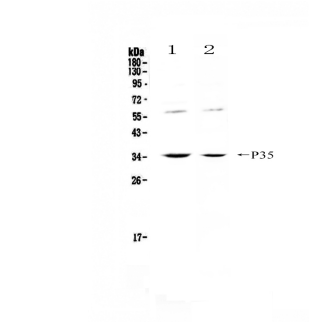
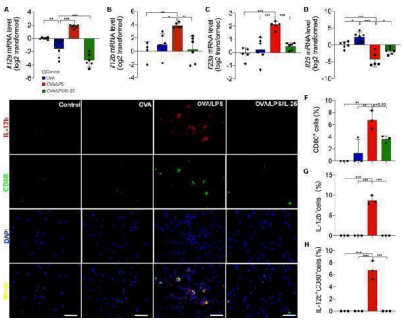
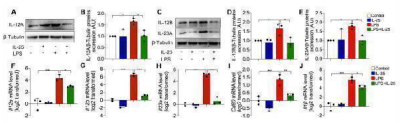
Anti-IL12A Antibody Picoband® (A00918-1) Images



Western blot analysis of IL12A using anti-IL12A antibody (A00918-1). 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 # A00918-1) at 0.5 ug/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 (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for IL12A at approximately 35KD. The expected band size for IL12A is at 25KD.



IL-25 inhibited the production of IL-12, IL-23 in amodel of of neutrophilia-dominant airway inflammation. (A - D) Measurement of Il12a , Il12b , Il23a and Il25 mRNA levels in lung tissue using RT-PCR. (E) Representative images of IL-12B and CD80 immunofluorescence staining in lung sections. Scale bar, 50 um. (F) The proportion of CD80 staining-positive cells in lung sections in different groups. (G) The proportion of IL-12B staining-positive cells in lung sections in different groups. (H) The proportion of CD80 and IL-12B staining-positive cells in lung sections in different groups. There were 4–6 mice in each group. One-way ANOVA was used for statistical analysis (* P<0.05; ** P<0.01; *** P<0.001) Index in PubMed under a CC BY license. PMID: 37898756



Exogenous IL-25 inhibited LPS-induced M1 polarization and the expression of IL-12 and IL-23 in mouse pulmonary cells. (A) Representative Western blots showing IL-12 A and beta-Tubulin protein in primary culture of mouse pulmonary macrophages. (B) Quantitative analysis of IL-12 A in mouse pulmonary macrophages using ImageJ. Values are expressed in arbitrary units (a.u.). (C) Representative Western blots showing IL-12B, IL-23 A, and beta-Tubulin protein in mouse pulmonary macrophages. (D - E) Quantitative analysis IL-12B, and IL-23A in mouse pulmonary macrophages using ImageJ. (F - J) Detection of Il12a, Il12b, Il23a, Cd80 , and Il-1beta mRNA level in mouse pulmonary macrophages using RT-PCR. The experiment was repeated 3 times independently, and a similar trend was obtained. One-way ANOVA was used for statistical analysis (* P<0.05; ** P<0.01; *** P<0.001) Index in PubMed under a CC BY license. PMID: 37898756

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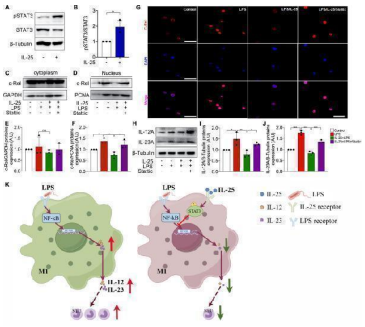
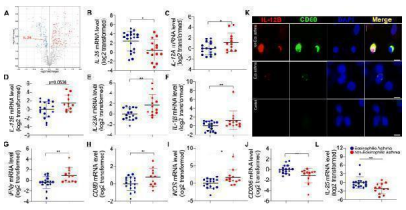


IL-25 inhibited LPS-induced translocation of c-Rel in STAT3-dependent manner in pulmonary macrophages. (A) The level of STAT3 phosphorylation was detected using Western blot. (B) Quantitative analysis of STAT3 phosphorylation in primary culture of pulmonary macrophages using ImageJ. Values are expressed in arbitrary units (a.u.). (C - D) Western blot was performed to measure the protein levels of c-Rel in the cytoplasm (C) and nucleus (D) of pulmonary macrophages. (E - F) Quantitative analysis of c-Rel expresion in cytoplasm (E) and nucleus (F) of pulmonary macrophages using ImageJ. (G) Representative images of c-Rel immunofluorescence staining in primary culture of macrophage from lung. Scale bar, 50 um. (H) The protein levels of IL-12 A and IL-23 A of pulmonary macrophages was measured using Western blot. (I - J) Quantitative analysis of IL-12 A and IL-23 A in pulmonary macrophages using ImageJ. Values are expressed in arbitrary units (a.u.). (K) The graphical abstract of this study, which was drawn by Figdraw. The experiment was repeated 3 times independently, and the similar trend was obtained. One way ANOVA was used for statistical analysis (* P<0.05; ** P<0.01; *** P<0.001) Index in PubMed under a CC BY license. PMID: 37898756



The expression of IL-25 was decreased whereas IL-12, IL-23, and M1 macrophage markers were increased in severe of non-eosinophilic asthmatics. (A) IL-25 protein levels were decreased in sputum from a cohort of non-smoker severe asthma in the U-BIOPRED study. Based on the analysis of the data provided by Takahashi et al. [ ], 158 downregulated and 187 upregulated proteins were identified in the supernatant of induced sputum from non-smoker severe asthma patients (n = 37) compared to controls (n = 18) by proteomic assay and were shown in the volcano plot. The protein level of IL-25 (indicated by the red arrow) was decreased in the supernatant of induced sputum from non-smoker severe asthma patients compared to controls (log2 of fold change = -0.274, P = 0.019). (B) Detection of IL-25 mRNA level in airway brushings of eosinophilic asthma (n = 20) and non-eosinophilic asthma (n = 14) by RT-PCR. (C - E) Detection of IL-12 A, IL-12B and IL-23 A mRNA level in induced sputum of eosinophilic asthma (n = 17) and non-eosinophilic asthma (n = 12) by RT-PCR. (F - J) Detection of I L-1beta, IFN-gamma, CD80, iNOS , and CD206 mRNA level in induced sputum of eosinophilic asthma (n = 17) and non-eosinophilic asthma (n = 12) by RT-PCR. (K) Representative images of IL-12B and CD80 immunofluorescence staining in BALF cells of control, eosinophilic asthma, and non-eosinophilic asthma. Scale bar, 5 um. (L) Detection of IL-25 mRNA level in induced sputum of eosinophilic asthma (n = 17) and non-eosinophilic asthma (n = 12) by RT-PCR. One way ANOVA was used for statistical analysis. (* P<0.05; ** P<0.01; *** P<0.001) Index in PubMed under a CC BY license. PMID: 37898756

IHC analysis of IL12A using anti-IL12A antibody (A00918-1). IL12A was detected in paraffin-embedded section of mouse

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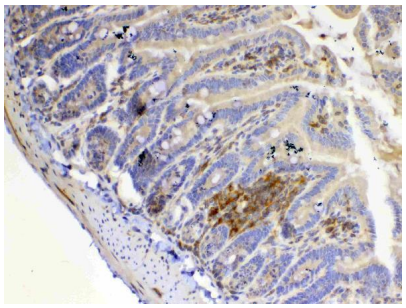
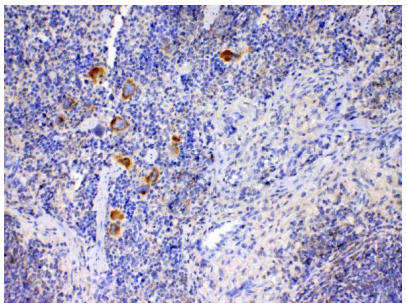


small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-IL12A Antibody (A00918-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of IL12A using anti-IL12A antibody (A00918-1). 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 1ug/ml rabbit anti-IL12A Antibody (A00918-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

3 Publications Citing This Product

1. PubMed ID: 10.1016/S0254-6272(18)30047-5, Interleukin-12 and interferon-gamma acting on damp-heat of spleen-stomach syndrome triggered by helicobacter pylori

2. PubMed ID: , Targeted depletion of tumour-associated macrophages by an alendronate–glucomannan conjugate for cancer immunotherapy

3. PubMed ID: 27074905, Re-polarizing Myeloid-derived Suppressor Cells (MDSCs) with Cationic Polymers for Cancer Immunotherapy

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Anti-IL12A Antibody

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