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antibody and ELISA experts

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Anti-Interleukin-18 IL18 Antibody Picoband®

Catalog Number: RP1017

About Il18

Interleukin-18 also known as IL18 is a protein which in humans is encoded by the IL18 gene. The protein encoded by this gene is a proinflammatory cytokine.IL-18 is a cytokine produced by macrophages and other cells that belongs to the IL-1 superfamily. IL-18 works by binding to the interleukin-18 receptor, and together with IL-12 it induces cell-mediated immunity following infection with microbial products like lipopolysaccharide (LPS). After stimulation with IL-18, natural killer (NK) cells and certain T cells release another important cytokine called interferon-gamma (IFN-gamma) or type II interferon that plays an important role in activating the macrophages or other cells.The combination of this cytokine and IL12 has been shown to inhibit IL4 dependent IgE and IgG1 production, and enhance IgG2a production in B cells. IL-18 binding protein (IL18BP) can specifically interact with this cytokine, and thus negatively regulate its biological activity. The human interleukin 18 gene IL18 maps to 11q22.2-q22.3, closely linked to the DRD2 gene locus and distinct from mapped IDDM loci.

Overview

Product Name	Anti-Interleukin-18 IL18 Antibody Picoband®
Reactive Species	Mouse
Description	Boster Bio Anti-Interleukin-18 IL18 Antibody catalog # RP1017. Tested in ELISA, IHC, WB applications. This antibody reacts with Mouse. 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 4mg Trehalose, 0.9mg NaCl and 0.2mg 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	P70380

Technical Details

Immunogen	E. coli-derived mouse IL-18 recombinant protein (Position: N36-S192).
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

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Form	Lyophilized
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, Mouse Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Mouse ELISA, 0.1-0.5ug/ml, -

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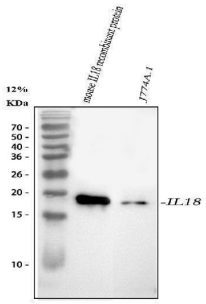
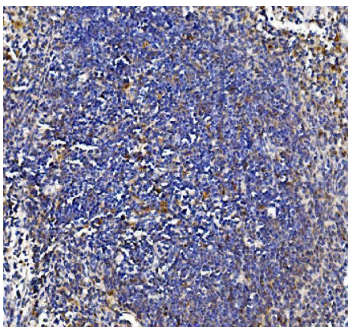
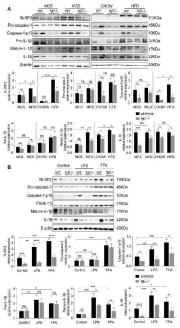
Anti-Interleukin-18 IL18 Antibody Picoband® (RP1017) Images



Western blot analysis of IL18 using anti-IL18 antibody (RP1017). 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 30 ug of sample under reducing conditions. Lane 1: mouse IL18 recombinant protein, Lane 2: mouse J774A.1 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-IL18 antigen affinity purified polyclonal antibody (Catalog # RP1017) 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 1:5000 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 IL18 at approximately 22 kDa.



IHC analysis of IL18 using anti-IL18 antibody (RP1017). IL18 was detected in a paraffin-embedded section of mouse spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-IL18 Antibody (RP1017) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



Fgl2 disruption inhibited activation of the NLRP3 inflammasome in NASH. Total protein was obtained from liver tissues of MCD-fed or HFD-fed WT and fgl2-/- mice. MCS-fed and chow-fed mice were used as controls. NLRP3, pro-caspase-1, cleaved caspase-1 (caspase-1 p10), pro-IL-1beta, mature IL-1beta and IL-18 were analyzed by western blotting (A). BMDMs from WT and fgl2-/- mice were stimulated with LPS or FFA and tested for inflammasomes by western blotting (B). Image density was quantified using ImageLab software. For bar graphs, n=6 in each group. The data represent the mean ± SD from at least three independent experiments. Statistical differences were determined by two-way ANOVA. *P

Fgl2 deficiency reduced lipid accumulation in hepatocytes by inhibiting the secretion of proinflammatory cytokines in macrophages. BMDMs from WT and fgl2-/- mice were stimulated with LPS (100 ng/ml) or FFA (800 umol/L). The levels of proinflammatory cytokines, including TNF-alpha, MCP-1, IL-6, IL-1beta and IL-18, in the supernatant of cell

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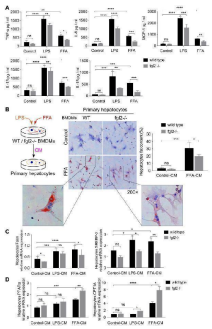
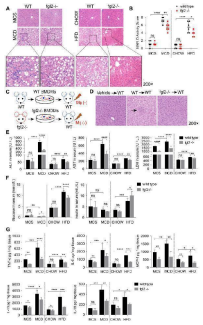


cultures were tested by ELISAs (A). Primary hepatocytes were isolated from C57BL/6J livers and incubated with LPS- or FFA-BMDM-CM for 24 hours. The brief experimental procedure is shown in a diagram. Oil red O staining was used to detect fat deposition in primary hepatocytes after treatment with BMDM-CM (B). Then, the mRNA levels of genes involved in lipogenesis (Fasn, SREBP-2) (C) or lipolysis (PPARalpha, CPT1A) (D) in primary hepatocytes were tested by real-time PCR. For bar graphs, n=6 in each group. The data represent the mean ± SD from at least three independent experiments. Statistical differences were determined by two-way ANOVA. *P



Fgl2 deficiency attenuated liver inflammatory injury in NASH mice. In MCD-fed or HFD-fed WT and fgl2-/- mice, HE staining was performed to detect histological changes in the liver (A). The NAFLD activity score was evaluated (B). BMDMs were isolated from WT or fgl2-/- mice and injected into macrophage-depleted WT NASH mice (C). Histological changes were detected by HE staining (D, arrows indicate inflammatory infiltration). Serum ALT, AST, LDH (E) and fasting glucose (F) were tested by an automatic biochemical analyzer (n=10 in each group). The levels of serum insulin were tested by an ELISA kit (F). The levels of the proinflammatory cytokines TNF-alpha, MCP-1, IL-6, IL-1beta and IL-18 in the liver were tested by ELISAs (G). For bar graphs, n=6-10 in each group. The data represent the mean ± SD from at least three independent experiments. Statistical differences were determined by two-way ANOVA. *P

4 Publications Citing This Product

1. PubMed ID: 33681944, Yang L,Liu Y,Wang Y,Li J,Liu N. Azeliragon ameliorates Alzheimer's disease via the Janus tyrosine kinase and signal transducer and activator of transcription signaling pathway. Clinics (Sao Paulo). 2021 Mar 8;76:e2348.doi:10.6061/clinics/2021/e2348.PMID:33681944;PMCID:PMC7920406.

2. PubMed ID: 25049723, Si Lf, Zhang Sy, Gao Cs, Chen Sl, Zhao J, Cheng Xc. Asian-Australas J Anim Sci. 2013 Oct;26(10):1399-405. Doi: 10.5713/Ajas.2013.13101. Effects Of Ifn-?? On Il-18 Expression In Pregnant Rats And Pregnancy Outcomes.

3. PubMed ID: 21920610, Wang Y, Zhang X, Zhang Y, Xu H, Fang G. J Reprod Immunol. 2011 Dec;92(1-2):45-53. Doi: 10.1016/J.Jri.2011.07.002. Epub 2011 Sep 13. Expression And Localization Of Il-18 In The Hypothalamic-Pituitary-Ovarian Axis Of Non-Pregnant, Pregnant, And Abor...

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