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antibody and ELISA experts

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Anti-IL1 beta/IL1B Antibody Picoband®

Catalog Number: PB9025

About Il1b

Interleukin-1beta (IL-1beta) is a potent stimulator of bone resorption whose gene is mapped to 2q14, and has been implicated in the pathogenesis of high bone turnover and osteoporosis. IL-1beta, a prominent microglia-derived cytokine, caused oligodendrocyte death in coculture with astrocytes and microglia, but not in pure culture of oligodendrocytes alone. It also can cause nuclear export of a specific NCOR corepressor complex, resulting in derepression of a specific subset of nuclear factor-kappa-B (NFKB)-regulated genes. Furthermore, Microenvironmental IL-1beta and, to a lesser extent, IL-1alpha are required for in vivo angiogenesis and invasiveness of different tumor cells. Additional, the cooperation of IL-1beta and PDGFB induces contractile-to-synthetic phenotype modulation of human aortic smooth muscle cells in culture. Moreover, the association with disease may be explained by the biologic properties of IL-1beta, which is an important proinflammatory cytokine and a powerful inhibitor of gastric acid secretion.

Overview

Product Name	Anti-IL1 beta/IL1B Antibody Picoband®
Reactive Species	Mouse, Rat
Description	Boster Bio Anti-IL1 beta/IL1B Antibody Picoband® catalog # PB9025. Tested in ELISA, IHC, WB applications. This antibody reacts with 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	Q63264

Technical Details

Immunogen	E.coli-derived rat IL-1 beta recombinant protein (Position: V117-S268). Rat IL-1 beta shares 78% and 90% amino acid (aa) sequences identity with human and mouse IL-1 beta, respectively.
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

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Isotype	Rabbit IgG
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, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Mouse, Rat ELISA, 0.1-0.5ug/ml,

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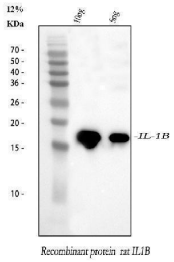
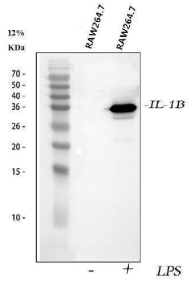
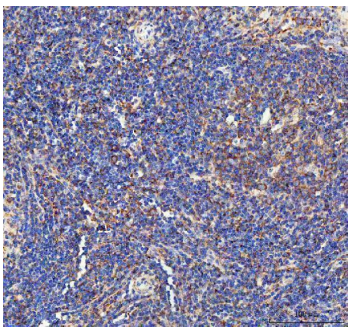
Anti-IL1 beta/IL1B Antibody Picoband® (PB9025) Images



Western blot analysis of IL1 beta using anti-IL1 beta antibody (PB9025). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. Lane 1: recombinant rat IL1 beta protein 10 ng, Lane 2: recombinant rat IL1 beta protein 5 ng. 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-IL1 beta antigen affinity purified polyclonal antibody (Catalog # PB9025) 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 IL1 beta at approximately 17 kDa.



Western blot analysis of IL1 beta using anti-IL1 beta antibody (PB9025). 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 RAW264.7 whole cell lysates, Lane 2: mouse RAW264.7 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-IL1 beta antigen affinity purified polyclonal antibody (Catalog # PB9025) 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 IL1 beta at approximately 35 kDa. The expected band size for IL1 beta is at 31 kDa.



IHC analysis of IL1 beta using anti-IL1 beta antibody (PB9025). IL1 beta 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-IL1 beta Antibody (PB9025) 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.

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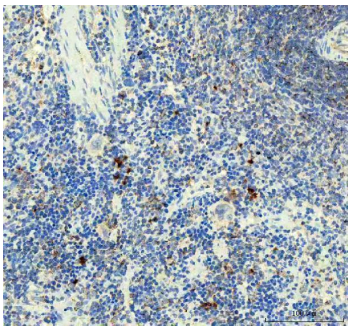
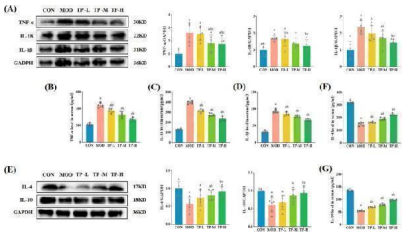
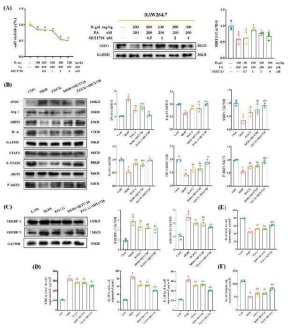


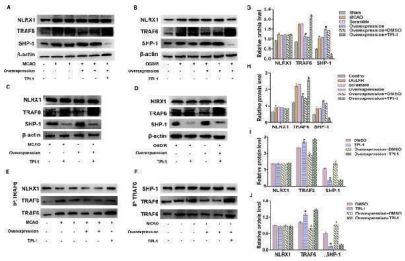
IHC analysis of IL1 beta using anti-IL1 beta antibody (PB9025). IL1 beta was detected in a paraffin-embedded section of rat spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-IL1 beta Antibody (PB9025) 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.



TP corrected inflammation levels in the aging with DKD model rats. (A) Representative WB images and quantification of the expression of TNF-alpha, IL-1beta, and IL-18 (n = 6). (B–D) Levels of TNF-alpha, IL-18, and IL-1beta in serum (n = 6). (E) Representative WB images and quantification of the expression of IL-4 and IL-10 (n = 6). (F, G) Levels of IL-4 and IL-10 in serum (n = 6). Compared with the CON group, a p



SIRT1 agonist SRT1720 increased M2-like macrophage and decreased lipid deposition by EGCG in the model cells. (A) Determination of the optimal concentration of SRT1720 (n = 3). (B) Representative WB images and quantitative analysis of the level of iNOS, Arg-1, SIRT1, IL-4, P-STAT6, and P-AKT1 in the RAW264.7 cells (n = 3). (C) Representative WB images and quantitative analysis of the level of SREBP-1 and SREBP-2 in the MPC5 cells (n = 3). (D) Levels of TNF-alpha, IL-18, and IL-1beta in supernatant (n = 6). (E, F) Levels of IL-4 and IL-10 in supernatant (n = 6). Compared with the CON group, a p



DJ-1 regulated the disassociation of NLRX1 from TRAF6 after cerebral I/R injury via SHP-1. a , g After virus and TPI-1 were used to overexpress DJ-1 and inhibit SHP-1, respectively, Western blotting was used to detect NLRX1, TRAF6, and SHP-1 in rats. b , h After virus and TPI-1 were used to overexpress DJ-1 and inhibit SHP-1, respectively, Western blotting was used to detect NLRX1, TRAF6, and SHP-1 in astrocytes. c , i After treatment with an SHP-1 inhibitor, Western blotting was used to detect the cytokines IL-1beta, IL-6, and TNF-alpha in rats. d , j After treatment with an SHP-1 inhibitor, Western blotting was used to detect the cytokines IL-1beta, IL-6, and TNF-alpha in astrocytes. e Immunoprecipitation and immunoblot analyses of NLRX1-TRAF6 in rats. f Immunoprecipitation and immunoblot analyses of SHP-1-TRAF6 in rats. The data are expressed as the mean ± SEM. * p

SIRT1 inhibitor EX-527 increased M1-like macrophage and lipid accumulation by EGCG in the model cells. (A) Determination of the optimal concentration of EX-527. n = 3. (B) Representative WB images and quantitative analysis of the level of iNOS, Arg-1, SIRT1, IL-4, P-STAT6, and P-AKT1 in

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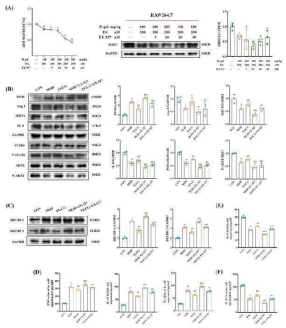
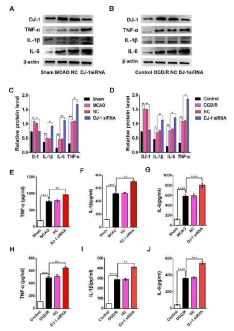
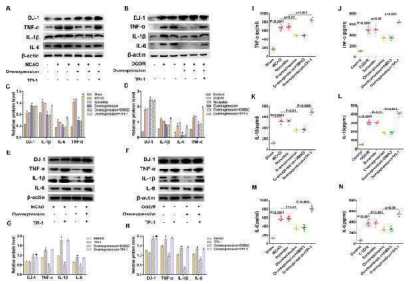


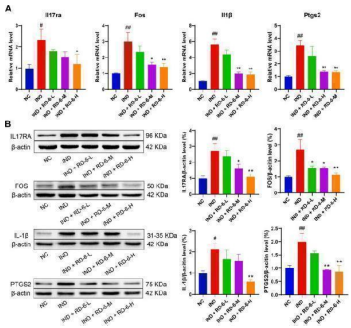
the RAW264.7 cells. n = 3 (C) Representative WB images and quantitative analysis of the level of SREBP-1 and SREBP-2 in the MPC5 cells. n = 3. (D) Levels of TNF-alpha, IL-18, and IL-1beta in supernatant. n = 6. (E, F) Levels of IL-4 and IL-10 in supernatant. n = 6. Compared with the CON group, a p



DJ-1 interference increased the expression of TNF-alpha, IL-1beta, and IL-6 after cerebral I/R injury. a and c Western blot detecting DJ-1 and the cytokines TNF-alpha, IL-1beta, and IL-6 in rats. b , d Western blot detecting DJ-1 and the cytokines TNF-alpha, IL-1beta, and IL-6 in astrocytes. e–g Quantification of TNF-alpha, IL-1beta, and IL-6 in rats by ELISA. h-j Quantification of TNF-alpha, IL-1beta, and IL-6 in astrocytes by ELISA. The data are expressed as the mean ± SEM. * p

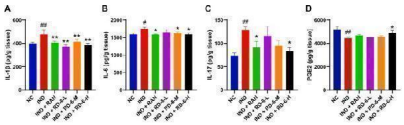


DJ-1 inhibited the expression of TNF-alpha, IL-1beta, and IL-6 after cerebral I/R injury via SHP-1. a , c After virus and TPI-1 were used to overexpress DJ-1 and inhibit SHP-1, respectively, Western blotting was used to detect the cytokines IL-1beta, IL-6, and TNF-alpha in rats. b , d After virus and TPI-1 were used to overexpress DJ-1 and inhibit SHP-1, respectively, Western blotting was used to detect the cytokines IL-1beta, IL-6, and TNF-alpha in astrocytes. e , g After treatment with an SHP-1 inhibitor, Western blotting was used to detect the cytokines IL-1beta, IL-6, and TNF-alpha in rats. f , h After treatment with an SHP-1 inhibitor, Western blotting was used to detect the cytokines IL-1beta, IL-6, and TNF-alpha in astrocytes. i , k , m Quantification of TNF-alpha, IL-1beta, and IL-6 in rats by ELISA. j , l , n Quantification of TNF-alpha, IL-1beta, and IL-6 in astrocytes by ELISA. The data are expressed as the mean ± SEM. * p



The pretreatment of RD-6 inhibited the IL-17 signaling pathway in indomethacin-induced GU rats. The expression of IL17RA, FOS, IL1B, and PTGS2 determined in gastric tissue by qRT-PCR (A) and western bloting (B) . Data are expressed as mean ± S.E.M (n = 3). One-way ANOVA with the uncorrected Fisher's LSD test was used to evaluate multiple comparisons. # $p < 0.05$, ## $p < 0.01$ vs. NC group; * $p < 0.05$, ** $p < 0.01$ vs. IND group. NC, normal control; IND, indomethacin; RD-6-L, M, and H represent Ruda-6 at low, medium and high doses, respectively. PMID: 37637418

The pretreatment of RD-6 exerts anti-inflammatory effects against indomethacin-induced GU rats. The levels of IL-1beta (A) , IL-6 (B) , IL-17 (C) , and PGE2 (D) in gastric tissue. Data are expressed as mean ± S.E.M (n = 6). One-way ANOVA



with the uncorrected Fisher's LSD test was used to evaluate multiple comparisons. # $p < 0.05$, and ## $p < 0.01$ vs. the NC group; * $p < 0.05$, and ** $p < 0.01$ vs. the IND group. NC, normal control; IND, indomethacin; RAN, ranitidine; RD-6-L, M, and H represent Ruda-6 at low, medium and high doses, respectively.Index in PubMed under a CC BY license. PMID: 37637418

12 Publications Citing This Product

1. PubMed ID: -, Microstructural changes and immunohistological analysis of pro-inflammatory cytokines in spleens of lipopolysaccharide-induced rats.Indian Journal Of Animal Research.2019.(53):239-244

2. PubMed ID: 33683631, Zhao N, Wang T, Peng L, Li Y, Zhao Y, Yu S. Attenuation of Inflammation by DJ-1 May Be a Drug Target for Cerebral Ischemia-Reperfusion Injury. Neurochem Res. 2021 Mar 8. doi: 10.1007/s11064-021-03288-z. Epub ahead of print. PMID: 33683631.

3. PubMed ID: 33130049, Ghoneim ME,Abdallah DM,Shebl AM,El-Abhar HS. The interrupted cross-talk of inflammatory and oxidative stress trajectories signifies the effect of artesunate against hepatic ischemia/reperfusion-induced inflammasomopathy. Toxicol Appl Pharmacol.2020 Oct 29

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