

Rabbit Interleukin 1beta Polyclonal Antibody | anti-IL1B antibody

Interleukin 1beta Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321795	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

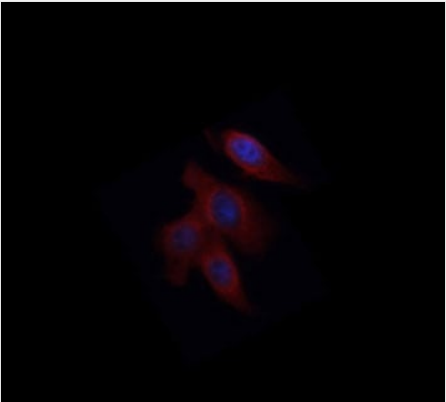
Interleukin 1beta; Polyclonal Antibody; Interleukin 1beta Antibody; Catabolin; H1; IL 1; IL 1 beta; IL-1 beta; IL1 BETA; IL1B; IL1B_HUMAN; IL1F2; Interleukin 1 beta; Interleukin-1 beta; OAF; OTTHUMP00000162031; Preinterleukin 1 beta; Pro interleukin 1 beta; anti-IL1B antibody

PRODUCT SPECIFICATIONS

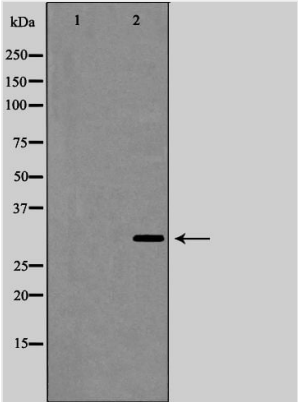
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Interleukin 1beta antibody detects endogenous levels of total Interleukin 1beta
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	269
Applicable Applications for anti-IL1B antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Interleukin 1beta
Subcellular Location	Cytoplasm, Cytosol, Lysosome, Secreted, Exosome, Cytoplasmic Vesicle, Autophagosome, Secreted. The precursor is cytosolic. In response to inflammasome-activating signals, such as ATP for NLRP3 inflammasome or bacterial flagellin for NLRC4 inflammasome, cleaved and secreted. IL1B lacks any known signal sequence and the pathway(s) of its secretion is(are) not yet fully understood (PubMed:24201029). On the basis of experimental results, several unconventional secretion mechanisms have been proposed. 1. Secretion via secretory lysosomes: a fraction of CASP1 and IL1B precursor may be incorporated, by a yet undefined mechanism, into secretory lysosomes that undergo Ca(2+)-dependent exocytosis with release of mature IL1B (PubMed:15192144). 2. Secretory autophagy: IL1B-containing autophagosomes may fuse with endosomes or multivesicular bodies (MVBs) and then merge with the plasma membrane releasing soluble IL1B or IL1B-containing exosomes (PubMed:24201029). However, autophagy impacts IL1B production at several levels and its role in secretion is still controversial. 3. Secretion via exosomes: ATP-activation of P2RX7 leads to the formation of MVBs containing exosomes with entrapped IL1B, CASP1 and other inflammasome components. These MVBs undergo exocytosis with the release of exosomes. The release of soluble IL1B occurs after the lysis of exosome membranes (By similarity). 4. Secretion by microvesicle shedding: activation of the ATP receptor P2RX7 may induce an immediate shedding of membrane-derived microvesicles containing IL1B and possibly inflammasome components. The cytokine is then released in the extracellular compartment after microvesicle lysis (PubMed:11728343). 5. Release by translocation through permeabilized plasma membrane. This may occur in cells undergoing pyroptosis due to sustained activation of the inflammasome (By similarity). These mechanisms may not be mutually exclusive.
Tissue Specificity	Expressed in activated monocytes/macrophages (at protein level).
Predicted Cross Reactivity	Horse, Rabbit
Similarity	Horse (80%), Rabbit (100%)

Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

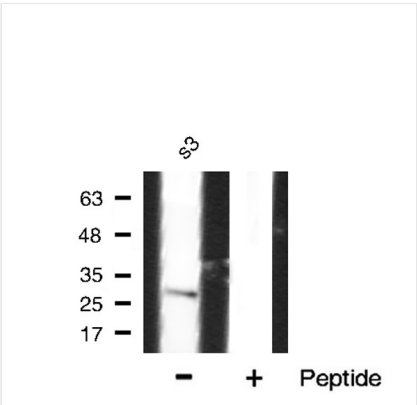
IMAGES



IF (Immunofluorescence)
AAA321795 staining murine bone marrow-derived macrophages by ICC/IF. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600 was used as secondary antibody.



WB (Western Blot)
Western blot analysis of Interleukin 1beta expression in HeLa cell lysate, The lane on the left is treated with the antigen-specific peptide.



WB (Western Blot)
Western blot analysis of Interleukin 1beta expression in S3 lysate

ADDITIONAL INFORMATION

Related Product Information for anti-IL1B antibody	Description: IL-1 production is generally thought to be associated with inflammation, but it has also been shown to be expressed during kidney development, thymocyte differentiation and cartilage degradation. IL-1 plays a critical role in the regulation of immune response and inflammation, acting as an activator of T and B lymphocytes and natural killer (NK) cells. Function: Potent proinflammatory cytokine. Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B-cell activation and antibody production, and fibroblast proliferation and collagen production. Promotes Th17 differentiation of T-cells. Subunit Structure: Monomer. In its precursor form, weakly interacts with full-length MEFV; the mature cytokine does not interact at all (PubMed:17431422). Interacts with integrins ITGAV:ITGBV and ITGA5:ITGB1; integrin-binding is required for IL1B signaling (PubMed:29030430). Post-translational Modifications: Activation of the IL1B precursor involves a CASP1-catalyzed proteolytic cleavage. Processing and secretion are temporally associated. Similarity: Belongs to the IL-1 family.
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References	Zhu G, Chen Z, Dai B, Zheng C, Jiang H, Xu Y, Sheng X, Guo J, Dan Y, Liang S, Li G; Journal: Environ Toxicol. Chronic lead exposure enhances the sympathoexcitatory response associated with P2X4 receptor in rat stellate ganglia. Feng Y, Gao J, Cui Y, Li M, Li R, Cui C, Cui J; Journal: Cell Mol Neurobiol. Neuroprotective Effects of Resatorvid Against Traumatic Brain Injury in Rat: Involvement of Neuronal Autophagy and TLR4 Signaling Pathway. Zhu L, Xu H, Lv W, He Z, Ye P, Wang Y, Hu J; Journal: Inflammation. miR-199b-5p Regulates Immune-Mediated Allograft Rejection after Lung Transplantation Through the GSK3beta and NF-kB Pathways. Guo J, Sheng X, Dan Y, Xu Y, Zhang Y, Ji H, Wang J, Xu Z, Che H, Li G, Liang S, Li G; Journal: Purinergic Signal. Involvement of P2Y12 receptor of stellate ganglion in diabetic cardiovascular autonomic neuropathy. Zhu S, Shi P, Lv C, Li H, Pan B, Chen W, Zhao K, Yan Z, Chen C, Loake GJ, Niu M, Zeng L, Xu K; Journal: Biol Blood Marrow Transplant. Loss of NLRP3 Function Alleviates Murine Hepatic Graft-versus-Host Disease.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	10835145
NCBI GeneID	3553
NCBI Accession #	NP_000567.1
NCBI GenBank Nucleotide #	NM_000576.2
UniProt Accession #	P01584; Q53X59; Q53XX2; Q7M4S7; Q7RU01; Q96HE5; Q9UCT6
Molecular Weight	Observed: 30 kDa(precursor); 17 kD(mature) Predicted: 31 kDa
NCBI Official Full Name	interleukin-1 beta proprotein
NCBI Official Synonym Full Names	interleukin 1 beta
NCBI Official Symbol	IL1B
NCBI Official Synonym Symbols	IL-1; IL1F2; IL1-BETA
NCBI Protein Information	interleukin-1 beta
UniProt Protein Name	Interleukin-1 beta
UniProt Gene Name	IL1B
UniProt Synonym Gene Names	IL-1 beta1 PublicationManual assertion based on opinion iniRef.14

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.