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IL1B Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8531C

Specification

IL1B Antibody (Center) - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P01584
Other Accession	P14628, P79182
Reactivity	**Human, Mouse**
Predicted	**Monkey, Rabbit**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**148-174**

IL1B Antibody (Center) - Additional Information

Gene ID 3553

Other Names
Interleukin-1 beta, IL-1 beta, Catabolin, IL1B, IL1F2

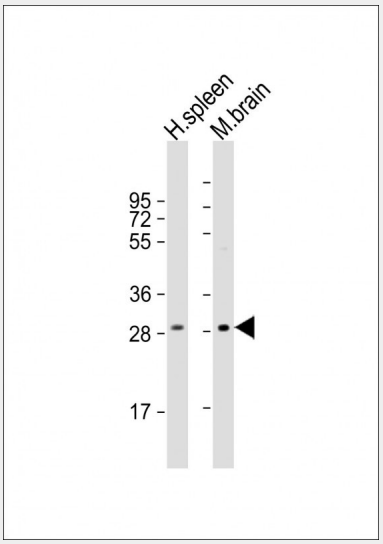
Target/Specificity
This IL1B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 148-174 amino acids of human IL1B.

Dilution
WB~~1:1000
IHC-P~~1:10~50
FC~~1:25

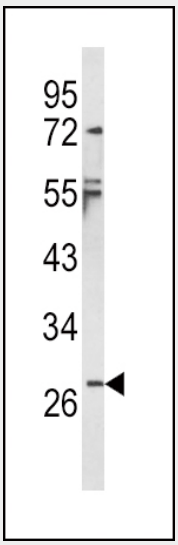
Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
IL1B Antibody (Center) is for research use only and not for use in diagnostic or



All lanes : Anti-IL1B Antibody (Center) at 1:2000 dilution Lane 1: human spleen lysate Lane 2: mouse brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 31 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of IL1B Antibody (Center) (Cat. #AP8531c) in NCI-H460 cell line lysates (35ug/lane). IL1B (arrow) was

therapeutic procedures.

IL1B Antibody (Center) - Protein Information

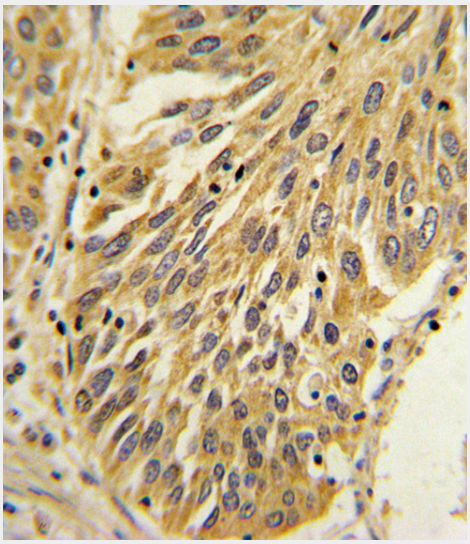
Name IL1B (HGNC:5992)

Synonyms IL1F2

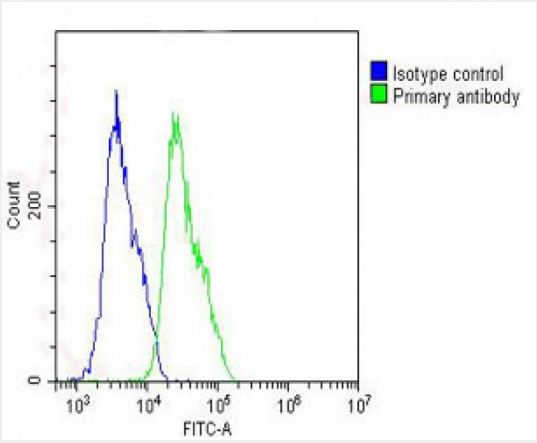
Function
Potent proinflammatory cytokine. Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B- cell activation and antibody production, and fibroblast proliferation and collagen production. Promotes Th17 differentiation of T-cells. Synergizes with IL12/interleukin-12 to induce IFNG synthesis from T- helper 1 (Th1) cells (PubMed:10653850). Plays a role in angiogenesis by inducing VEGF production synergistically with TNF and IL6 (PubMed:12794819).

Cellular Location
Cytoplasm, cytosol. Lysosome. Secreted, extracellular exosome {ECO:0000250|UniProtKB:P10749}. Secreted. Note=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

detected using the purified Pab.



Formalin-fixed and paraffin-embedded human lung carcinoma with IL1B Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Overlay histogram showing MCF-7 cells stained with AP8531c (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP8531c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition

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). 6. The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10; it results in the protein translocation from the cytoplasm into the ERGIC (endoplasmic reticulum-Golgi intermediate compartment) followed by vesicle entry and secretion, and enhanced by chaperones HSP90AB1 and HSP90B1/GRP9 (PubMed:32272059). These mechanisms may not be mutually exclusive.
{ECO:0000250|UniProtKB:P10749, ECO:0000269|PubMed:11728343, ECO:0000269|PubMed:15192144, ECO:0000269|PubMed:32272059, ECO:0000305|PubMed:24201029}

Tissue Location
Expressed in activated monocytes/macrophages (at protein level).

IL1B Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety

of >10, 000 events was performed.

IL1B Antibody (Center) - Background

IL1B is a member of the interleukin 1 cytokine family. This cytokine is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1 (CASP1/ICE). This cytokine is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. The induction of cyclooxygenase-2 (PTGS2/COX2) by this cytokine in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity.

IL1B Antibody (Center) - References

Yu,J., et.al., Am. J. Gastroenterol. (2009)
Ito,A., et.al., J. Biol. Chem. 271 (25), 14657-14660 (1996)

- Cell Culture

IL1B Antibody (Center) - Citations

- Activation of NLRP3 inflammasome by cholesterol crystalsin alcohol consumption induces atherosclerotic lesions.
- Effects of Berberine on NLRP3 and IL-1β Expressions in Monocytic THP-1 Cells with Monosodium Urate Crystals-Induced Inflammation.
- NF-κB activation and cell death after intracerebral hemorrhage in patients.