abcam

Product datasheet

Anti-IL-1 beta antibody (HRP) ab106035

1 Abreviews 10 References

Overview

Product name	Anti-IL-1 beta antibody (HRP)
Description	Rabbit polyclonal to IL-1 beta (HRP)
Host species	Rabbit
Conjugation	HRP
Specificity	ab106035 is primarily directed against mature, 17,000 MW Mouse IL-1 beta. It will recognize 10% of the non-denatured (native) precursor 31,000 MW Mouse IL-1 beta containing samples but will primarily detect all of the 17,000 MW mature molecule. ab106035 does not detect IL1 alpha.
Tested applications	**Suitable for:** WB, IHC-P, Flow Cyt, IP, RIA, IHC-Fr, ELISA, Neutralising
Species reactivity	**Reacts with:** Mouse, Rat **Does not react with:** Human, Non human primates
Immunogen	Recombinant full length protein corresponding to Mouse IL-1 beta.
Positive control	Rat and Mouse endotoxin stimulated peripheral blood mononuclear cells (PBMC).
General notes	Do NOT add Sodium Azide!

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Gentamicin sulphate Constituents: 0.42% Potassium phosphate, 0.88% Sodium chloride, 1% BSA BSA is Immunoglobulin and Protease free
Purity	DEAE-Chromatography
Purification notes	ab106035 was heated to 56° C for 30 minutes.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab106035 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	(1)	1/1000 - 1/5000. Predicted molecular weight: 17, 30 kDa.
IHC-P		1/500 - 1/2500.
Flow Cyt		Use at an assay dependent concentration. Caution should be exhibited as the F(c) domain of the Rabbit IgG molecule may interact with cells non-specifically.
IP		Use at an assay dependent concentration. Preclearing the preparation with a non-specific Rabbit IgG to reduce background is suggested.
RIA		Use at an assay dependent concentration.
IHC-Fr		1/500 - 1/2500.
ELISA		1/10000 - 1/50000. Best used as the second antibody in combination with a monoclonal antibody as a capture antibody.
Neutralising		Use at an assay dependent concentration. It is recommended to incubate the sample with a dilution of the antibody for at least 4 hours before being tested.

Target

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.

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

Sequence similarities Belongs to the IL-1 family.

Post-translational modifications Activation of the IL1B precursor involves a CASP1-catalyzed proteolytic cleavage. Processing and secretion are temporarily associated.

Cellular localization 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 not mutually exclusive.

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