abcam

Product datasheet

Anti-IL-1 beta antibody ab205924

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Overview

Product name	Anti-IL-1 beta antibody
Description	Rabbit polyclonal to IL-1 beta
Host species	Rabbit
Specificity	ab205924 is primarily directed against mature, 17,000 MW mouse IL-1 beta and is useful in determining its presence in various assays. The antibody does not recognize human IL-1 beta or mouse IL1 alpha based on a neutralization assay. In ELISA formats and other immunoreactive assays, reactivity occurs with rat IL-1 beta. This antibody 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. However, in immunoblot analysis, the usual procedure of heating the sample in SDS with or without reducing agents will facilitate denaturing of the 31,000 MW IL-1 beta precursor molecule. Denatured 31,000 precursor IL-1 beta will be recognized by this antibody.
Tested applications	**Suitable for:** WB, IHC-P
Species reactivity	**Reacts with:** Mouse
Immunogen	Recombinant full length protein corresponding to Mouse IL-1 beta. Prepared by repeated immunizations with recombinant mouse IL-1 beta produced in E.coli. Database link: **P10749**
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	Constituents: 0.424% Potassium phosphate, 0.8766% Sodium chloride
Purity	DEAE-Chromatography

Purification notes	This is an IgG preparation of whole rabbit serum purified by DEAE fractionation.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab205924 in the following tested applications.

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

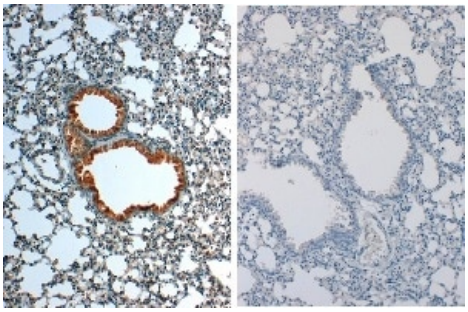
Application	Abreviews	Notes
WB		1/500 - 1/2000. Predicted molecular weight: 30 kDa.
IHC-P		Use a concentration of 2 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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

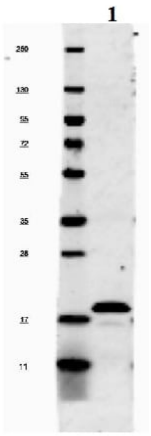
undergoing pyroptosis due to sustained activation of the inflammasome (By similarity). These mechanisms may not be not mutually exclusive.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody (ab205924)

Immunohistochemistry of ab205924 in mouse embryonic kidney tissue. Mouse embryonic kidney fixation: FFPE buffered formalin, 10% conc Ag Retrieval: Heat, Citrate pH 6.2. Pressure Cooker. Primary antibody: 2ug/ml for 1.5 hour @ room temperature. Secondary Ab: HRP polymer 1/50 for 45 minutes at room temperature.



Western blot - Anti-IL-1 beta antibody (ab205924)

ab205924 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. However, in western blot analysis, the usual procedure of heating the sample in SDS with or without reducing agents will facilitate denaturing of the 31,000 MW IL-1 beta precursor molecule. Denatured IL-1 beta will have a 18 kDa band.

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