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Product datasheet

Anti-IL-1 beta antibody ab2105

23 Abreviews 175 References 2 Images

Overview

Product name	Anti-IL-1 beta antibody
Description	Rabbit polyclonal to IL-1 beta
Host species	Rabbit
Tested applications	**Suitable for:** RIA, ELISA, ICC/IF, IHC-Fr, Functional Studies, WB, IP, Neutralising, Flow Cyt, IHC-P, IHC-FoFr
Species reactivity	**Reacts with:** Human **Predicted to work with:** Non human primates
Immunogen	Recombinant full length protein corresponding to Human IL-1 beta aa 100 to the C-terminus. Produced in E.coli. MW of recombinant IL-1 beta 17kDa, mature chain without propeptide. Database link: **P01584** Run BLAST with Run BLAST with
Positive control	IHC-P: human medullary lymph node
General notes	caution, F(c) domain of rabbit IgG may interact with cells non-specifically. 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. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride
Purity	IgG fraction
Purification notes	IgG from whole rabbit serum purified by DEAE fractionation.
Clonality	Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2105 in the following tested applications.

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

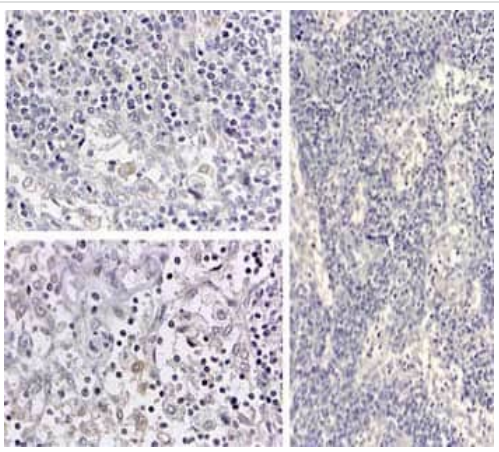
Application	Abreviews	Notes
RIA		Use at an assay dependent concentration.
ELISA	★★★★☆ (1)	Use at an assay dependent concentration.
ICC/IF	★★★★★ (4)	Use at an assay dependent concentration.
IHC-Fr	★★★★☆ (2)	Use at an assay dependent concentration.
Functional Studies		Use at an assay dependent concentration.
WB	★★★★☆ (6)	Use at an assay dependent concentration. Predicted molecular weight: 30 kDa. 1/1000 - 1/2000 (antigen - supernatants or lysates of 2 x 106 endotoxin-stimulated human PBMC. Denatured 31kDa precursor IL-1beta will be recognized, but often migrates as a 35 kDa band).
IP		Use at an assay dependent concentration. 1/400 - 1/800 (pre-clearing with a non-specific rabbit IgG is helpful to reduce background).
Neutralising		Use at an assay dependent concentration. Neutralization of IL-1beta activity in bioassays 1/100 (>4 hours incubation, normal rabbit IgG as negative control). ab2105 does not neutralize the biological activity of murine, rat or rabbit IL1 beta.
Flow Cyt	★★★★☆ (1)	Use at an assay dependent concentration. F(c) domain of rabbit IgG may interact with cells non-specifically! **ab171870** - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.
IHC-P	★★★★☆ (9)	Use at an assay dependent concentration.
IHC-FoFr		Use at an assay dependent concentration. PubMed: 28726778

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.

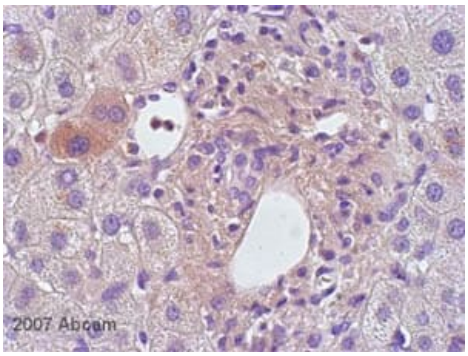
Tissue specificity	Expressed in activated monocytes/macrophages (at protein level).
Sequence similarities	Belongs to the IL-1 family.
Post-translational modifications	Activation of the IL1B precursor involves a CASP1-catalyzed proteolytic cleavage. Processing and secretion are temporarily associated.
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 (ab2105)

Immunohistochemical analysis of Formalin-fixed paraffin-embedded human medullary lymph node sections labeling IL-1 beta with ab2105. Peroxidase goat anti-rabbit at 1/10,000 was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody (ab2105)

This image is courtesy of an Abreview submitted by Miss Silke Vorwald

ab2105 at 1/20 staining human liver tissue sections by IHC-P. The cells were paraformaldehyde fixed and a heat mediated antigen retrieval step was performed. The tissue was incubated with the tissue overnight at room temperature. A biotinylated donkey anti-rabbit IgG was used as the secondary antibody and this was detected using streptavidin HRP.

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