abcam

Product datasheet

Anti-IL-1 beta antibody ab9787

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Overview

Product name	Anti-IL-1 beta antibody
Description	Rabbit polyclonal to IL-1 beta
Host species	Rabbit
Specificity	This antibody is used in our Rat IL-1beta EDK and was tested against the following rat growth factors at 50ng/ml to determine if there was any cross reactivity: GM-CSF, IL1alpha, IL-2, IL-4, IL-10, SCF, & TNFalpha. No significant cross reactivity was detected. The antibody has not been tested against endogenous IL1beta, only recombinant protein and we cannot guarantee it will detect endogenous protein.
Tested applications	**Suitable for:** Sandwich ELISA
Species reactivity	**Reacts with:** Recombinant fragment
Immunogen	Recombinant full length protein corresponding to Rat IL-1 beta aa 1 to the C-terminus. Database link: **Q63264** Run BLAST with Run BLAST with
Positive control	Recombinant rat IL-1 beta (lower limit of detection: 1.95 ng/lane)
General notes	This product is no longer batch tested in IHC, for an IHC validated antibody please see **ab156791** 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	Lyophilized:Reconstitute with 200µl of sterile water. Please note that if you receive this product in liquid form it has already been reconstituted as described and no further reconstitution is necessary.
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term.
Storage buffer	No preservative, sterile filtered

Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG
Light chain type	unknown

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab9787 in the following tested applications.

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

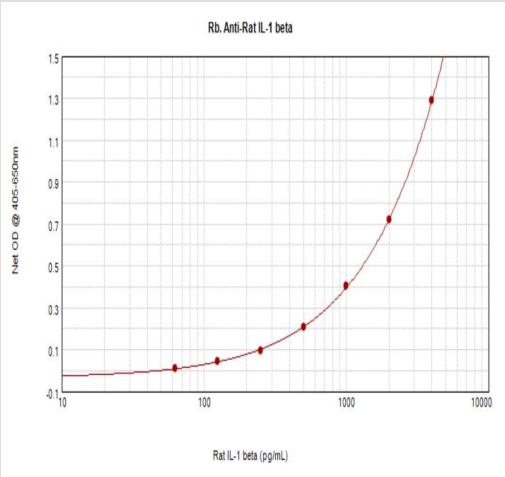
Application	Abreviews	Notes
Sandwich ELISA		Use a concentration of 0.5 - 2 µg/ml. To detect Rat IL-1 beta by sandwich ELISA (using 100 µl/well antibody solution) a concentration of 0.5 - 2.0 µg/ml of ab9787 is required. This antigen affinity purified antibody, in conjunction with a **ab245863** detection antibody, allows the detection of at least 0.2 - 0.4 ng/well of recombinant Rat IL-1 beta.

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



Sandwich ELISA - Anti-IL-1 beta antibody (ab9787)

This antigen affinity purified antibody, in conjunction with a suitable detection antibody, allows the detection of at least 0.2 - 0.4 ng/well of recombinant Rat IL-1 beta.

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