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antibody and ELISA experts

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Anti-IL-1 beta Antibody

Catalog Number: A00101-2

About IL1B

IL-1 beta (also known as Interleukin-1 beta, IL-1ß and catabolin) is produced by activated macrophages. IL-1 stimulates thymocyte proliferation by inducing IL-2 release, B-cell maturation and proliferation, and fibroblast growth factor activity. IL-1 proteins are involved in the inflammatory response, being identified as endogenous pyrogens, and are reported to stimulate the release of prostaglandin and collagenase from synovial cells. IL-1ß is a monomeric secreted protein that may be released by damaged cells or is secreted by a mechanism differing from that used for other secretory proteins.

Overview

Product Name	Anti-IL-1 beta Antibody
Reactive Species	Human
Description	Boster Bio Anti-IL-1 beta Antibody (Catalog # A00101-2). Tested in ELISA, IHC, WB applications. This antibody reacts with Human.
Application	ELISA, IHC, WB
Clonality	Polyclonal QCRL-1
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship on dry ice.)
Host	Rabbit
Uniprot ID	P01584

Technical Details

Immunogen	This antibody was prepared by repeated immunizations with recombinant human IL-1ß produced in E.coli. The MW of the recombinant 153 aa IL-1ß was 17 kDa with the N-terminal amino acid at position alanine 117. This cleavage site is generated by the IL-1ß converting enzyme (ICE, capase-1).
Predicted Reactive Species	Bovine, Goat, Guinea Pig, Hamster, Monkey, Sheep
Cross Reactivity	Detects ~20kDa. Does not cross-react with alphaB-crystallin, betaL-crystallin, H- crystallin, gamma-crystallin, HSP25, HSP27 or HSP47 proteins.
Isotype	IgG
Form	Liquid (sterile filtered)

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Concentration	2.0 mg/mL by UV absorbance at 280 nm
Purification	This is an IgG preparation of whole rabbit serum purified by DEAE fractionation. This antibody is primarily directed against mature, 17,000 MW human IL-1ß and is useful in determining its presence in various assays. In general, this antibody also detects primate IL-1ß in the same formats using similar dilutions. The antiserum does not recognize human IL-1alpha. In ELISA formats and other immunoreactive assays, this antibody will recognize 10% of the non-denatured (native) precursor 31,000 MW IL-1ß containing samples but will primarily detect all of the 17,000 MW mature molecule. However, in immunoblot analysis of natural cell products or human body fluids, the usual procedure of hearing the sample in SDS with or without reducing agents will facilitate denaturing of the 31,000 MW IL- 1ß precursor molecule. Denatured 31,000 precursor IL-1ß will be recognized by this antibody but often migrates as a 35,000 MW band. This is due to the unfolding of the denatured precursor IL-1ß exposing epitopes not exposed in the natural state. In immunoblots, depending on the number of cells, the antibody detects the 17,000 MW band in supernatants as well as a 35,000 MW band representing the 31,000 MW IL-1ß precursor in lysates.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: ELISA: 1:500 - 1:2,000 Flow Cytometry: User optimized IHC: 1:100 - 1:200 IP: 1:400 - 1:800 WB: 1:1,000 Neutralization: 1:100

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Anti-IL-1 beta Antibody (A00101-2) Images

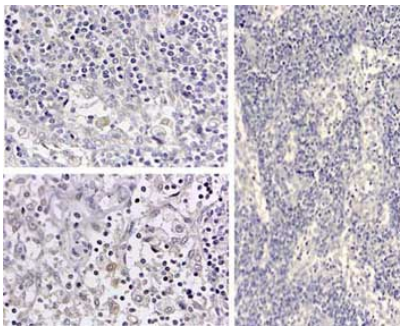

Figure 1. IHC analysis of IL1B using anti-IL1B antibody (A00101-2).
IL1B was detected in paraffin-embedded section. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-IL1B Antibody (A00101-2) overnight at 4°C. Biotinylated goat anti Rabbit IgG antibody was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

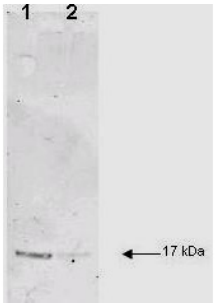

Figure 2. Western blot analysis of IL1B using anti-IL1B antibody (A00101-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-IL1B antigen affinity purified polyclonal antibody (Catalog # A00101-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-Rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # SA1022) with Tanon 5200 system. A specific band was detected for IL1B.

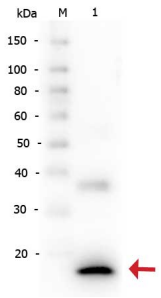

Figure 3. Western blot analysis of IL1B using anti-IL1B antibody (A00101-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
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5 Publications Citing This Product

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1. PubMed ID: 10.1007/s00221-008-1365-1, Interleukin-1beta of Red nucleus involved in the development of allodynia in spared nerve injury rats

2. PubMed ID: 22942709, Qin Q, Niu J, Wang Z, Xu W, Qiao Z, Gu Y. Int J Mol Sci. 2012;13(7):8379-87. Doi: 10.3390/Ijms13078379. Epub 2012 Jul 5. Astragalus Membranaceus Inhibits Inflammation Via Phospho-P38 Mitogen-Activated Protein Kinase (Mapk) And Nuclear Factor (Nf)-...

3. PubMed ID: 25338658, Antenatal exposure of maternal secondhand smoke (SHS) increases fetal lung expression of RAGE and induces RAGE-mediated pulmonary inflammation

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