10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Human IL-1ß (RABBIT) Antibody

IL-1 Beta Antibody
Catalog # ASR4928

Specification

Anti-Human IL-1ß (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human, Dog**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**Anti-Human IL-1ß has been tested in western blot. This antibody is suitable for use in neutralizations, ELISA, radioimmunoassays, flow cytometry, immunohistochemistry, and immunoprecipitation. It recognizes the 17,000 MW mature IL-1ß. For immunoblots, typically, IL-1ß is detected from supernatants or lysates of 2 x 10E6 endotoxin-stimulated peripheral blood mononuclear cells (PBMC). PBMC are stimulated for 24 hours with 1% (v/v) serum plus 10 ng/mL E.coli LPS. For immunoprecipitation pre-clearing the preparation with a non-specific Rabbit IgG (p/n 011-001-297) to reduce background is suggested. For immunohistochemistry either paraffin fixation or cryofixation can be used for sample preparation to stain intracellular IL-1ß. For ELISA use HRP Conjugated Anti-Rabbit IgG [H&L] (Goat) (611-1302) for detection. In ELISA formats this antibody is best used as the second antibody in combination with a monoclonal antibody as a capture antibody. This antibody is also useful for neutralization of human and primate IL-1ß activity in bioassays. It does not neutralize the biological activity IL-1α. It does not neutralize the biological activity of murine, rat or rabbit IL-1ß. For neutralization, it is recommended to incubate the sample with a dilution of the antibody for at least 4 hours before being tested. A control of similarly diluted normal rabbit IgG is recommended. This antibody can be used for FACS analysis. Caution should be exhibited as the F(c) domain of the rabbit IgG molecule may interact with cells**

	non-specifically.
Physical State	**Lyophilized**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
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).**
Reconstitution Volume	**100 µL**
Reconstitution Buffer	**Restore with deionized water (or equivalent)**

Anti-Human IL-1ß (RABBIT) Antibody - Additional Information

Gene ID 3553

Other Names
3553

Purity
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-1α. 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.

Storage Condition
Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. 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.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Human IL-1ß (RABBIT) Antibody - Protein Information

Name IL1B (HGNC:5992)

Synonyms IL1F2

Function

Potent pro-inflammatory cytokine (PubMed:10653850, PubMed:12794819, PubMed:28331908, PubMed:3920526). 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 (PubMed:3920526). Promotes Th17 differentiation of T-cells. Synergizes with IL12/interleukin-12 to induce IFNG synthesis from T-helper 1 (Th1) cells (PubMed:10653850). Plays a role in angiogenesis by inducing VEGF production synergistically with TNF and IL6 (PubMed:12794819). Involved in transduction of inflammation downstream of pyroptosis: its mature form is specifically released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore (PubMed:33377178, PubMed:33883744). Acts as a sensor of S.pyogenes infection in skin: cleaved and activated by pyogenes SpeB protease, leading to an inflammatory response that prevents bacterial growth during invasive skin infection (PubMed:28331908).

Cellular Location
Cytoplasm, cytosol. Secreted. Lysosome Secreted, extracellular exosome {ECO:0000250|UniProtKB:P10749} Note=The precursor is cytosolic (PubMed:15192144). In response to inflammasome-activating signals, such as ATP for NLRP3 inflammasome or bacterial flagellin for NLRC4 inflammasome, cleaved and secreted (PubMed:24201029, PubMed:33377178, PubMed:33883744). Mature form is secreted and released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore (PubMed:33883744). In contrast, the precursor form is not released, due to the presence of an acidic region that is proteolytically removed by CASP1 during maturation (PubMed:33883744). The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10 (PubMed:32272059)

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

Anti-Human IL-1ß (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Human IL-1ß (RABBIT) Antibody - Images

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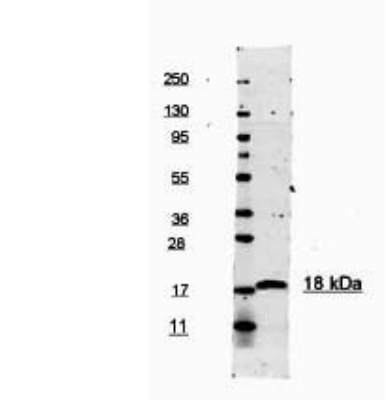

Western blot showing detection of recombinant human IL-1ß by Rockland's anti-IL-1ß antibody. Recombinant human IL-1ß was loaded on to an SDS-PAGE gel at 0.1 µg and after separation, transferred to nitrocellulose. The expected band is approximately 18 kDa in size. The membrane was blocked with 1% BSA in TBST for 30 min at RT, followed by incubation with primary antibody diluted 1:1,000 in 1% BSA in TBST overnight at 4°C. After washes, the blot was reacted with secondary antibody HRP Goat anti-Rabbit IgG antibody diluted 1:40,000 in blocking buffer (p/n MB-070) for 30 min at RT. Data was collected using Bio-Rad VersaDoc® 4000 MP imaging system.

Anti-Human IL-1ß (RABBIT) Antibody - Background

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. Anti-IL- beta antibody is ideal for investigators involved in Cardiovascular and Immunology research.