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

# Anti-IL-1 beta Antibody

Catalog # ABO12292

## Product Information

| | |
|---|---|
| **Application** | E |
| **Primary Accession** | Q63264 |
| **Host** | Rabbit |
| **Reactivity** | Rat |
| **Clonality** | Polyclonal |
| **Format** | Lyophilized |
| **Description** | Rabbit IgG polyclonal antibody for Interleukin-1 beta(IL1B) detection. Tested with ELISA in Rat. |
| **Reconstitution** | Add 0.2ml of distilled water will yield a concentration of 500ug/ml. |

## Additional Information

| | |
|---|---|
| **Other Names** | Interleukin-1 beta, IL-1 beta, Il1b |
| **Calculated MW** | 30644 |
| **Application Details** | ELISA , 0.1-0.5 □g/ml, Rat |
| **Subcellular Localization** | Secreted. The lack of a specific hydrophobic segment in the precursor sequence suggests that IL-1 is released by damaged cells or is secreted by a mechanism differing from that used for other secretory proteins. |
| **Source** | Eukaryota |
| **Protein Name** | Interleukin-1 beta |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. |
| **Immunogen** | A synthetic peptide corresponding to a sequence at the C-terminus of rat IL-1 beta (202-229aa DPKQYPKKKMEKRFVFNKIEVKTKVEFE), different from the related human sequence by five amino acids, and from the related mouse sequence by one amino acid. |
| **Purification** | Immunogen affinity purified. |
| **Cross Reactivity** | No cross reactivity with other proteins |
| **Storage** | At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing. |

## Protein Information

| | |
|---|---|
| **Name** | Il1b {ECO:0000312\|RGD:2891} |
| **Function** | Potent pro-inflammatory 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. Synergizes with IL12/interleukin-12 to induce IFNG synthesis from T- helper 1 (Th1) cells. Plays a role in angiogenesis by inducing VEGF production synergistically with TNF and IL6. 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. |
| **Cellular Location** | Cytoplasm, cytosol {ECO:0000250\|UniProtKB:P01584}. Secreted {ECO:0000250\|UniProtKB:P01584}. Lysosome {ECO:0000250\|UniProtKB:P01584}. Secreted, extracellular exosome {ECO:0000250\|UniProtKB:P10749}. Note=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. Mature form is secreted and released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore. In contrast, the precursor form is not released, due to the presence of an acidic region that is proteolytically removed by CASP1 during maturation. The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10. {ECO:0000250\|UniProtKB:P01584} |

## Background

Interleukin-1 □ (IL-1 □) is a potent stimulator of bone resorption whose gene is mapped to 2q14, and has been implicated in the pathogenesis of high bone turnover and osteoporosis. IL-1 □, a prominent microglia-derived cytokine, caused oligodendrocyte death in coculture with astrocytes and microglia, but not in pure culture of oligodendrocytes alone. It also can cause nuclear export of a specific NCOR corepressor complex, resulting in derepression of a specific subset of nuclear factor-kappa-B (NFKB)-regulated genes. Furthermore, Microenvironmental IL-1 □ and, to a lesser extent, IL-1 □± are required for in vivo angiogenesis and invasiveness of different tumor cells. Additional, the cooperation of IL-1 □ and PDGFB induces contractile-to-synthetic phenotype modulation of human aortic smooth muscle cells in culture. Moreover, the association with disease may be explained by the biologic properties of IL-1 □, which is an important proinflammatory cytokine and a powerful inhibitor of gastric acid secretion.