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Anti-IL-1 beta Antibody

Catalog # AP51281

Product Information

Application	WB, IHC
Primary Accession	P01584
Reactivity	Human, Mouse, Rat, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	30748

Additional Information

Gene ID	3553
Other Names	IL1F2; Interleukin-1 beta; IL-1 beta; Catabolin
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human IL-1 beta. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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)

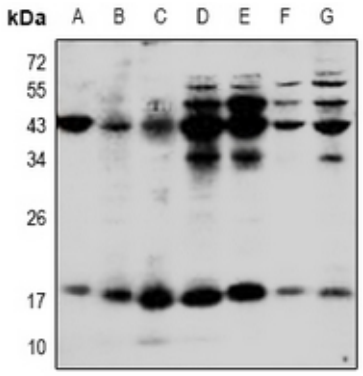
Tissue Location

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

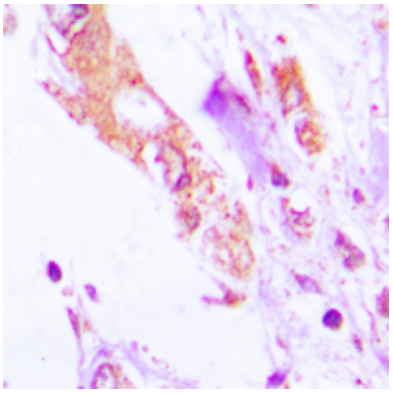
References

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March C.J.,et al.Nature 315:641-647(1985).
Clark B.D.,et al.Nucleic Acids Res. 14:7897-7914(1986).
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Nishida T.,et al.Biochem. Biophys. Res. Commun. 143:345-352(1987).

Images



Western blot analysis of IL-1 beta expression in Raw264.7 (A), mouse spleen (B), rat spleen (C), rat thymus (D), mouse thymus (E), Jurkat (F), THP1 (G) whole cell lysates. (Predicted band size: 30 kD; Observed band size: 43; 35; 17 kD)



Immunohistochemical analysis of IL-1 beta staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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