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IL1B Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1632a

Specification

IL1B Antibody - Product Information

Application	**E, WB, IHC, IF**
Primary Accession	P01584
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**31kDa KDa**

Description
The modification of proteins with ubiquitin is an important cellular mechanism for targeting abnormal or short-lived proteins for degradation. Ubiquitination involves at least three classes of enzymes: ubiquitin-activating enzymes, or E1s, ubiquitin-conjugating enzymes, or E2s, and ubiquitin-protein ligases, or E3s. This gene encodes a member of the E2 ubiquitin-conjugating enzyme family. Four alternatively spliced transcript variants encoding the same protein have been found for this gene.

Immunogen
Purified recombinant fragment of human IL1B expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

IL1B Antibody - Additional Information

Gene ID 3553

Other Names
Interleukin-1 beta, IL-1 beta, Catabolin, IL1B, IL1F2

Dilution
E~~1/10000
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
IF~~1/200 - 1/1000

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
IL1B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

IL1B Antibody - Protein Information

Name IL1B (HGNC:5992)

Synonyms IL1F2

Function
Potent pro-inflammatory cytokine (PubMed:3920526, PubMed:10653850, PubMed:12794819, PubMed:28331908). 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)

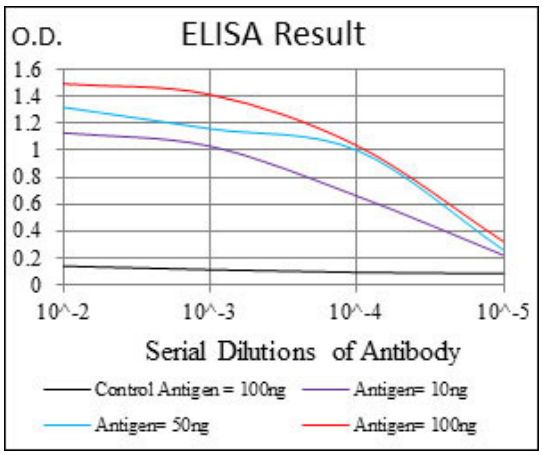
Tissue Location
Expressed in activated monocytes/macrophages (at protein level).

IL1B 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

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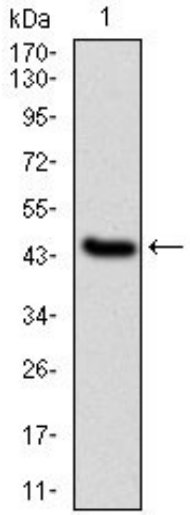


Figure 1: Western blot analysis using IL1B mAb against human IL1B (AA: 126-261) recombinant protein. (Expected MW is 41 kDa)

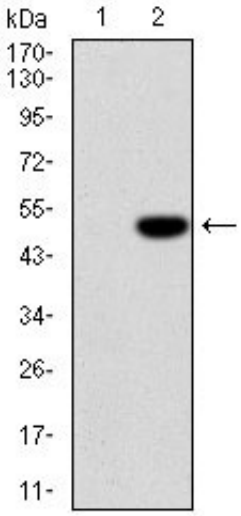


Figure 2: Western blot analysis using IL1B mAb against HEK293 (1) and IL1B-hIgGFc transfected HEK293 (2) cell lysate.

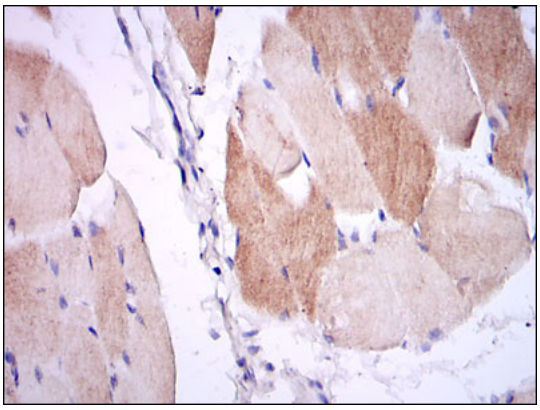


Figure 3: Immunohistochemical analysis of paraffin-embedded muscle tissues using IL1B mouse mAb with DAB staining.

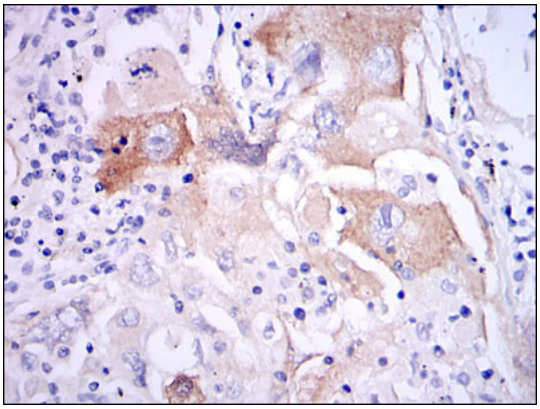


Figure 4: Immunohistochemical analysis of paraffin-embedded lung cancer tissues using IL1B mouse mAb with DAB staining.

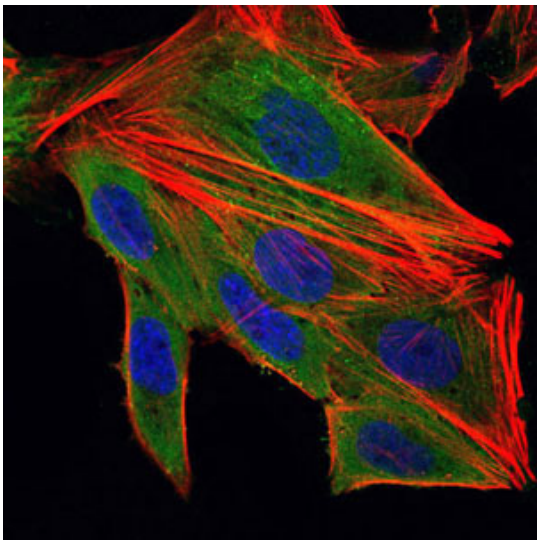


Figure 5: Immunofluorescence analysis of HepG2 cells using IL1B mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

IL1B Antibody - References

1. Cell Signal. 2009 Dec;21(12):1935-44. 2. Nat Struct Mol Biol. 2009 Sep;16(9):945-52.

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