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IL1B Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1632a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	P01584
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3A6
Isotype	IgG1
Calculated MW	30748
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.

Additional Information

Gene ID	3553
Other Names	Interleukin-1 beta, IL-1 beta, Catabolin, IL1B, IL1F2
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 ICC~~N/A E~~1/10000
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.

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

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

Images

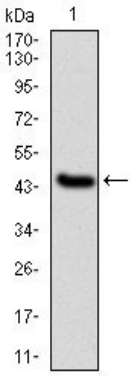
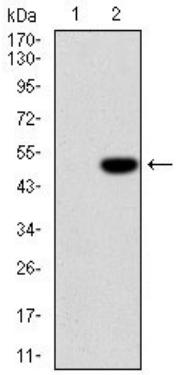


Figure 1: Western blot analysis using IL1B mAb against human IL1B (AA: 126-261) recombinant protein. (Expected MW is 41 kDa)

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



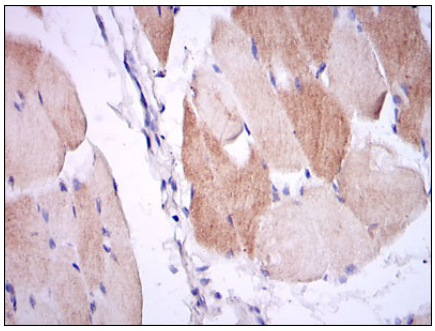


Figure 3: Immunohistochemical analysis of paraffin-embedded muscle tissues using IL1B mouse mAb with DAB staining.

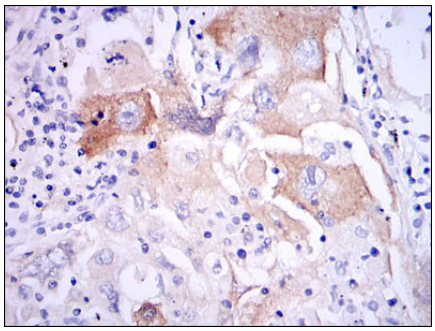


Figure 4: Immunohistochemical analysis of paraffin-embedded lung cancer tissues using IL1B mouse mAb with DAB staining.

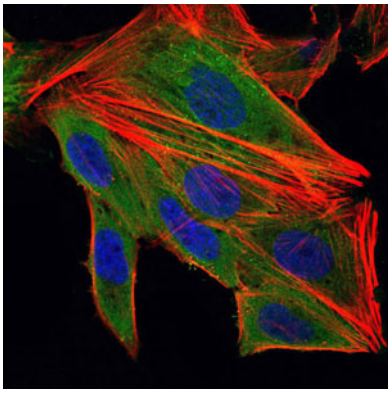


Figure 5: Immunofluorescence analysis of HepG2 cells using IL1B mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

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