Anti-IL-1 beta Antibody [A7F7-R] - BSA and Azide free

HA610004

Product Type:	Recombinant Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, ELISA, IHC-P, IF-Tissue
Molecular Wt:	Predicted band size: 31 kDa
Clone number:	A7F7-R

Description: The protein encoded by this gene is a member of the interleukin 1 cytokine family. This cytokine is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1 (CASP1/ICE). This cytokine is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. The induction of cyclooxygenase-2 (PTGS2/COX2) by this cytokine in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity. Similarly, IL-1B has been implicated in human osteoarthritis pathogenesis. Patients with severe Coronavirus Disease 2019 (COVID-19) present elevated levels of pro-inflammatory cytokines such as IL-1B in bronchial alveolar lavage fluid samples. The lung damage induced by the Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is to a large extent, a result of the inflammatory response promoted by cytokines such as IL-1B. This gene and eight other interleukin 1 family genes form a cytokine gene cluster on chromosome 2.

Immunogen: Recombinant protein within Human IL-1 beta aa 117-269 / 269.

Positive control: THP-1 treated with 80nM TPA overnight then replaced with 100ng/mL LPS for 6 hours add 300ng/mL BFA for last 3 hours cell lysate, human tonsil tissue.

Subcellular location: Extracellular exosome, Secreted, Lysosome, Cytosol.

Database links: SwissProt: P01584 Human | P10749 Mouse | Q63264 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
ELISA	1:20,000
IHC-P	1:100
IF-Tissue	1:200

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

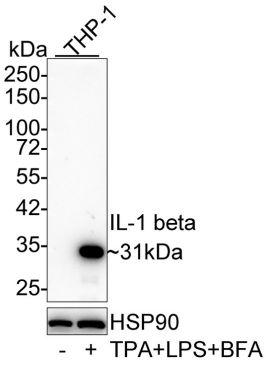

Fig1: Western blot analysis of IL-1 beta on different lysates with Mouse anti-IL-1 beta antibody (HA610004) at 1/1,000 dilution.

Lane 1: THP-1 cell lysate
Lane 2: THP-1 treated with 80nM TPA overnight then replaced with 100ng/mL LPS for 6 hours add 300ng/mL BFA for last 3 hours cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 31 kDa
Observed band size: 31 kDa

Exposure time: 1 minute;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA610004) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

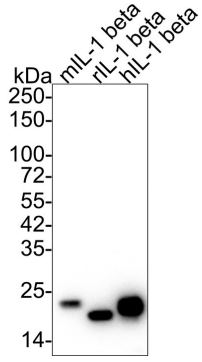

Fig2: Western blot analysis of IL-1 beta on different proteins with Mouse anti-IL-1 beta antibody (HA610004) at 1/2,000 dilution.

Lane 1: Recombinant mouse IL-1 beta
Lane 2: Recombinant rat IL-1 beta
Lane 3: Recombinant human IL-1 beta

Lysates/proteins at 50 ng/Lane.

Exposure time: 30 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA610004) at 1/2,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

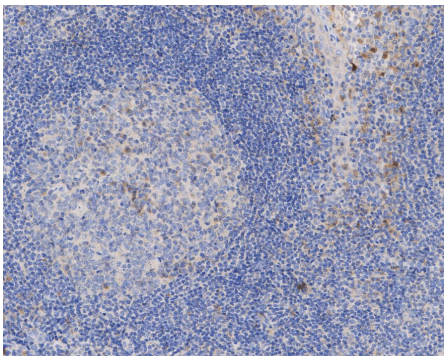

Fig3: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Mouse anti-IL-1 beta antibody (HA610004) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA610004) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

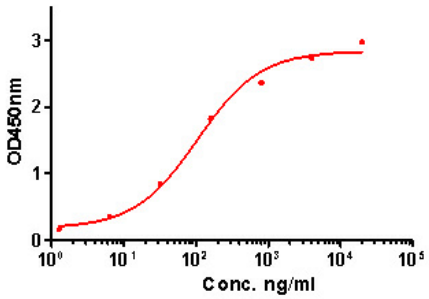

Fig4: IL-1 beta Antibody (HA610004) in indirect ELISA.

Indirect ELISA analysis of IL-1 beta was performed by coating wells of a 96-well plate with 50 µl per well of IL-1 beta antigen diluted in carbonate/bicarbonate buffer, at a concentration of 1 µg/mL overnight at 4℃. Wells of the plate were washed, blocked with StartingBlock blocking buffer, and incubated with 50 µl per well of a mouse IL-1 beta monoclonal antibody starting at a concentration of 20 µg/mL and serially diluting it to a concentration of 1.28 ng/mL for 2 hours at room temperature. The plate was washed and incubated with 50 µl per well of an HRP-conjugated goat anti-mouse IgG secondary antibody at a dilution of 1:10,000 for one hour at room temperature. Detection was performed using an Ultra TMB Substrate for 5 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

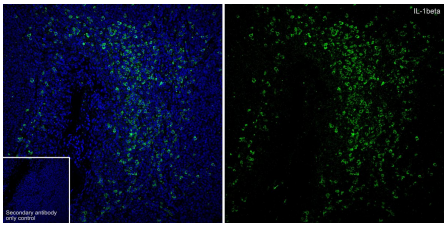

Fig5: Application: IF-Tissue

Species: Human

Site: tonsil

Sample: Paraffin-embedded section

Antibody concentration: 1/200

Background References

1. Qiao J et al. Autologous platelet rich plasma injection can be effective in the management of osteoarthritis of the knee: impact on IL-1 beta, TNF-alpha, hs-CRP. J Orthop Surg Res. 2024 Oct
2. Vicens-Artés S et al. Effect of MP-AzeFlu in IL-1 beta-induced IL-6 and proinflammatory cytokines. Immunol Res. 2023 Jun