# Anti-IL-1 beta Antibody [JJ087-3]

## ET1701-39

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|---|---|
| **Product Type:** | Recombinant Rabbit monoclonal IgG, primary antibodies |
| **Species reactivity:** | Human |
| **Applications:** | WB, IF-Cell, IF-Tissue, IHC-P |
| **Molecular Wt:** | Predicted band size: 31 kDa |
| **Clone number:** | JJ087-3 |

**Description:** Two forms of interleukin-1, designated IL-1α and IL-1β, have been described. Although encoded by distinct genes and exhibiting roughly only 25% sequence identity, IL-1α and IL-1β bind to the same receptor and seem to elicit similar biological responses. IL-1 production is generally thought to be associated with inflammation, but it has also been shown to be expressed during kidney development, thymocyte differentiation and cartilage degradation. IL-1 plays a critical role in the regulation of immune response and inflammation, acting as an activator of T and B lymphocytes and natural killer (NK) cells. In T cells, IL-1 stimulates the production of IL-2 and selectively inhibits IL-4 expression. IL-1 induces B cell proliferation and maturation, and immunoglobulin synthesis. NK cells require IL-1β for production of the anti- pathogen IFN-γ. IL-1 has also been implicated in several pathological conditions including rheumatoid arthritis, inflammatory bowel disease and atherosclerosis.

**Immunogen:** Synthetic peptide within C-terminal human IL1 beta.

**Positive control:** THP-1 treated with 80nM TPA overnight then treated with 100ng/mL LPS for 6 hours and 300ng/mL BFA for 3 hours whole cell lysate, A431, Hela, human kidney tissue.

**Subcellular location:** Cytoplasm, Lysosome, extracellular exosome, Secreted.

**Database links:** SwissProt: P01584 Human

**Recommended Dilutions:**

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| **WB** | 1:1,000 |
| **IF-Cell** | 1:50-1:200 |
| **IF-Tissue** | 1:50-1:200 |
| **IHC-P** | 1:50-1:200 |

**Storage Buffer:** 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

**Purity:** Protein A affinity purified.

## Images

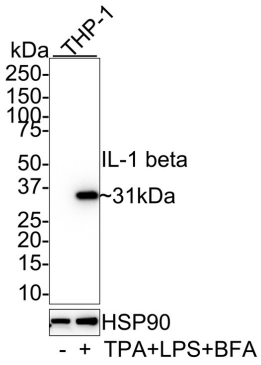


**Fig1:** Western blot analysis of IL-1 beta on different lysates with Rabbit anti-IL-1 beta antibody (ET1701-39) at 1/1,000 dilution.

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

Lysates/proteins at 20 µg/Lane.

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

Exposure time: 25 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 (ET1701-39) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

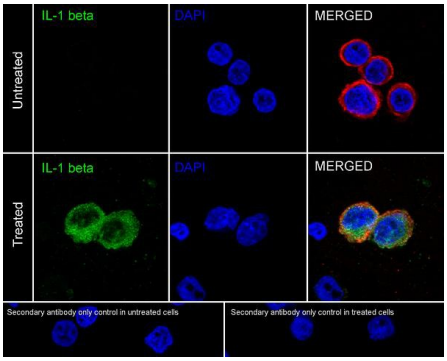


**Fig2:** Immunocytochemistry analysis of THP-1 cells untreated with or without TPA(80nM overnight) then LPS(100ng/mL 6h)+BFA(300ng/mL 3h) labeling IL-1 beta with Rabbit anti-IL-1 beta antibody (ET1701-39) at 1/500 dilution.
Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-IL-1 beta antibody (ET1701-39) at 1/500 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.
Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

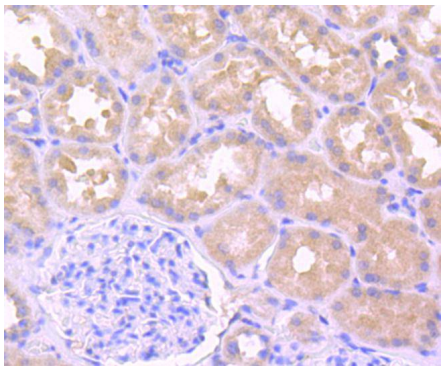

**Fig3:** Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-IL-1 beta antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with dd$H_2O$ and PBS, and then probed with the primary antibody (ET1701-39, 1/50) for 30 minutes 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.



## Background References

1. Ashok A et al. Exposure to As-, Cd-, and Pb-mixture induces A , amyloidogenic APP processing and cognitive impairments via oxidative stress-dependent neuroinflammation in young rats. Toxicol Sci 143:64-80 (2015).
2. Zhang J et al. Effects of p75 neurotrophin receptor on regulating hypoxia-induced angiogenic factors in retinal pigment epithelial cells. Mol Cell Biochem 398:123-34 (2015).