

Anti-Caspase-1 + p10 + p12 Antibody [JE56-35]

HA722222



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P
Molecular Wt:	Predicted band size: 45 kDa
Clone number:	JE56-35

Description: Caspase-1/Interleukin-1 converting enzyme (ICE) is an evolutionarily conserved enzyme that proteolytically cleaves other proteins, such as the precursors of the inflammatory cytokines interleukin 1 β and interleukin 18 as well as the pyroptosis inducer Gasdermin D, into active mature peptides. It plays a central role in cell immunity as an inflammatory response initiator. Once activated through formation of an inflammasome complex, it initiates a proinflammatory response through the cleavage and thus activation of the two inflammatory cytokines, interleukin 1 β (IL-1 β) and interleukin 18 (IL-18) as well as pyroptosis, a programmed lytic cell death pathway, through cleavage of Gasdermin D. The two inflammatory cytokines activated by Caspase-1 are excreted from the cell to further induce the inflammatory response in neighboring cells.

Immunogen: Recombinant protein within Human Caspase-1 aa 255-404 / 404.

Positive control: Raji cell lysate, THP-1 cell lysate, U-937 cell lysate, RAW264.7 cell lysate, mouse spleen tissue lysate, rat spleen tissue lysate, THP-1, RAW264.7, human spleen tissue, mouse spleen tissue, rat spleen tissue.

Subcellular location: Cytoplasm, Cell membrane, nucleus.

Database links: SwissProt: P29466 Human | P29452 Mouse | P43527 Rat

Recommended Dilutions:

WB	1:2,000-1:5,000
IF-Cell	1:100
IHC-P	1:500-1:2,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term.

Purity: Protein A affinity purified.

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Orders:0086-571-88062880

Technical:0086-571-89986345

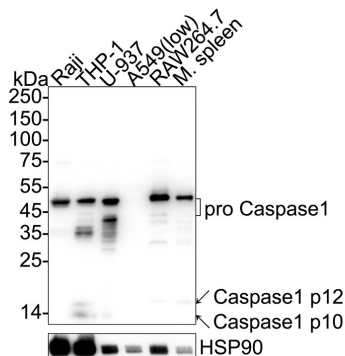
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Applications:WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Images

Fig1: Western blot analysis of Caspase-1 + p10 + p12 on different lysates with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/5,000 dilution.



Lane 1: Raji cell lysate
Lane 2: THP-1 cell lysate
Lane 3: U-937 cell lysate
Lane 4: A549 cell lysate (low expression)
Lane 5: RAW264.7 cell lysate
Lane 6: Mouse spleen tissue lysate

Lysates/proteins at 20 µg/Lane.

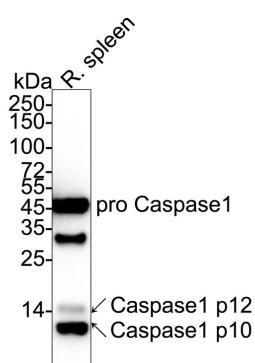
Predicted band size: 45 kDa
Observed band size: 45/42/35/12/10 kDa

Exposure time: 10 seconds; ECL: K1801;

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 (HA722222) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Western blot analysis of Caspase-1 + p10 + p12 on rat spleen tissue lysates with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/5,000 dilution.



Lysates/proteins at 10 µg/Lane.

Predicted band size: 45 kDa
Observed band size: 45/12/10 kDa

Exposure time: 3 minute 30 seconds; ECL: K1801;

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 (HA722222) at 1/5,000 dilution was used in 5% BSA at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

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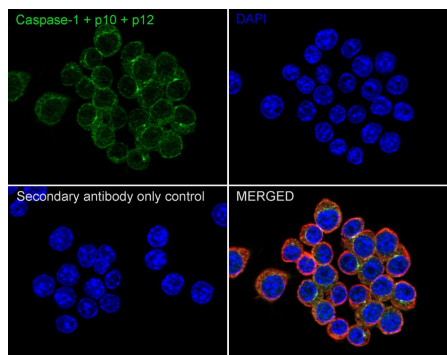
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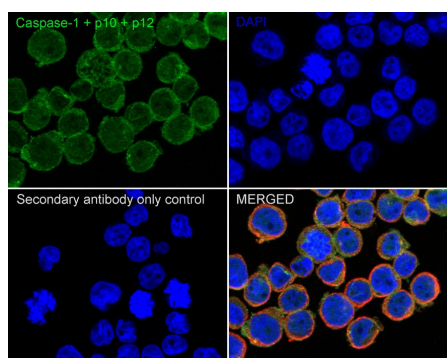
Fig3: Immunocytochemistry analysis of THP-1 cells labeling Caspase-1 + p10 + p12 with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/100 dilution.



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-Caspase-1 + p10 + p12 antibody (HA722222) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. 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 °C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

Fig4: Immunocytochemistry analysis of RAW264.7 cells labeling Caspase-1 + p10 + p12 with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/100 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-Caspase-1 + p10 + p12 antibody (HA722222) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. 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 °C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

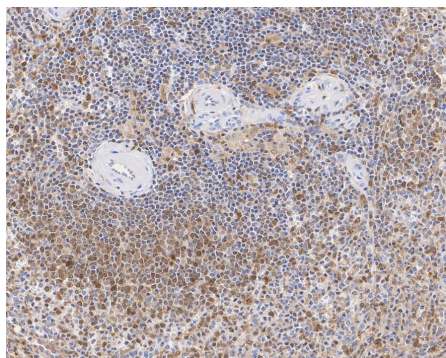


Fig5: Immunohistochemical analysis of paraffin-embedded human spleen tissue with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/2,000 dilution.

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 ddH₂O and PBS, and then probed with the primary antibody (HA722222) at 1/2,000 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.

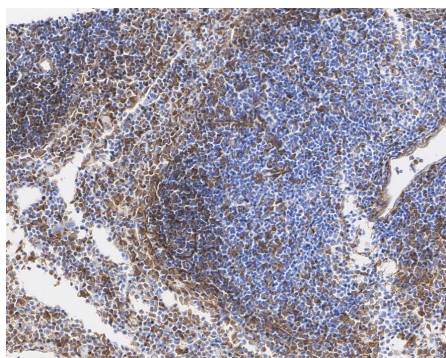


Fig6: Immunohistochemical analysis of paraffin-embedded mouse spleen tissue with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/2,000 dilution.

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 ddH₂O and PBS, and then probed with the primary antibody (HA722222) at 1/2,000 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.

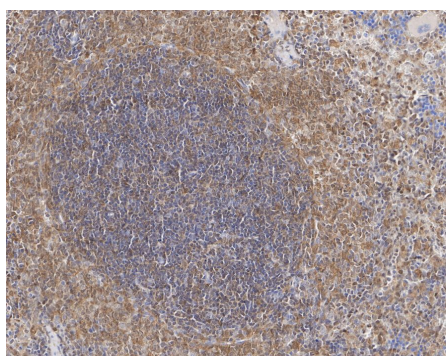


Fig7: Immunohistochemical analysis of paraffin-embedded rat spleen tissue with Rabbit anti-Caspase-1 + p10 + p12 antibody (HA722222) at 1/2,000 dilution.

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 ddH₂O and PBS, and then probed with the primary antibody (HA722222) at 1/2,000 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.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Wang F et al. Silica nanoparticles induce pyroptosis and cardiac hypertrophy via ROS/NLRP3/Caspase-1 pathway. Free Radic Biol Med. 2022 Mar
2. Kang L et al. Blocking Caspase-1/Gsdmd and Caspase-3/-8/Gsdme pyroptotic pathways rescues silicosis in mice. PLoS Genet. 2022 Dec

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