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Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody
Catalog # ABO16071

Specification

Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody - Product Information

Application	**WB, IP**
Primary Accession	P29466
Host	**Rabbit**
Isotype	**IgG**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody . Tested in WB, IP applications. This antibody reacts with Human, Mouse, Rat.

Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody - Additional Information

Gene ID 834

Other Names
Caspase-1, CASP-1, 3.4.22.36, Interleukin-1 beta convertase, IL-1BC, Interleukin-1 beta-converting enzyme, ICE, IL-1 beta-converting enzyme, p45, Caspase-1 subunit p20, Caspase-1 subunit p10, CASP1, IL1BC, IL1BCE

Calculated MW
45 kDa, 42 kDa, 35 kDa, 12 kDa, 10 kDa KDa

Application Details
WB 1:500-1:2000
IP 1:50

Contents
Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen
A synthesized peptide derived from Caspase-1 + p10 + p12

Purification
Affinity-chromatography

Storage	**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody - Protein Information

Name CASP1

Synonyms IL1BC, IL1BCE

Function
Thiol protease involved in a variety of inflammatory processes by proteolytically cleaving other proteins, such as the precursors of the inflammatory cytokines interleukin-1 beta (IL1B) and interleukin 18 (IL18) as well as the pyroptosis inducer Gasdermin-D (GSDMD), into active mature peptides (PubMed:15326478, PubMed:15498465, PubMed:1574116, PubMed:26375003, PubMed:32051255, PubMed:37993714, PubMed:7876192, PubMed:9334240). Plays a key role in cell immunity as an inflammatory response initiator: once activated through formation of an inflammasome complex, it initiates a pro-inflammatory response through the cleavage of the two inflammatory cytokines IL1B and IL18, releasing the mature cytokines which are involved in a variety of inflammatory processes (PubMed:15326478, PubMed:15498465, PubMed:1574116, PubMed:32051255, PubMed:7876192). Cleaves a tetrapeptide after an Asp residue at position P1 (PubMed:15498465, PubMed:1574116, PubMed:7876192). Also initiates pyroptosis, a programmed lytic cell death pathway, through cleavage of GSDMD (PubMed:26375003). In contrast to cleavage of interleukin IL1B, recognition and cleavage of GSDMD is not strictly dependent on the consensus cleavage site but depends on an exosite interface on CASP1 that recognizes and binds the Gasdermin-D, C-terminal (GSDMD-CT) part (PubMed:32051255, PubMed:32109412, PubMed:32553275). Cleaves and activates CASP7 in response to bacterial infection, promoting plasma membrane repair (PubMed:22464733). Upon inflammasome activation, during DNA virus infection but not RNA virus challenge, controls antiviral immunity through the cleavage of CGAS, rendering it inactive (PubMed:28314590). In apoptotic cells, cleaves SPHK2 which is released from cells and remains enzymatically active extracellularly (PubMed:20197547).

Cellular Location
Cytoplasm. Cell membrane

Tissue Location
Expressed in larger amounts in spleen and lung. Detected in liver, heart, small intestine, colon, thymus, prostate, skeletal muscle, peripheral blood leukocytes, kidney and testis. No expression in the brain.

Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

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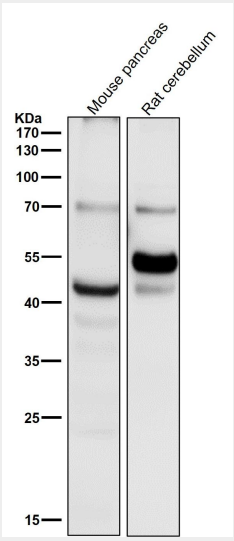
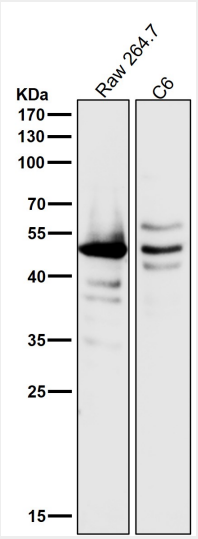
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Caspase-1 + p10 + p12 Rabbit Monoclonal Antibody - Images



All lanes use the Antibody at 1:500 dilution for 1 hour at room temperature.



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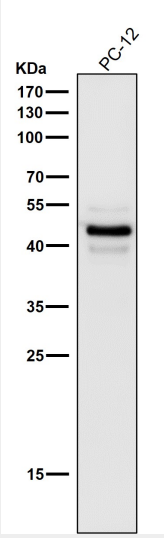

All lanes use the Antibody at 1:500 dilution for 1 hour at room temperature.

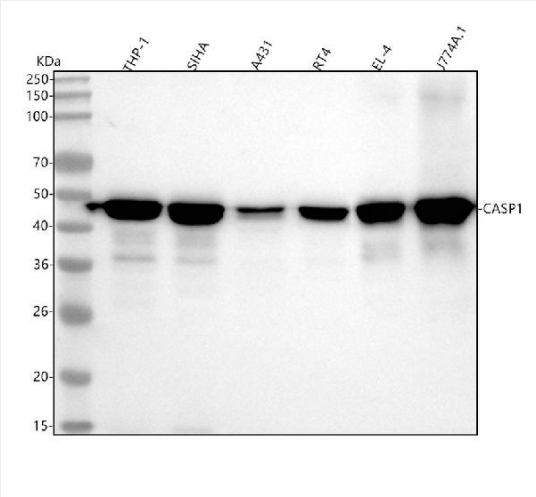

Figure 1. Western blot analysis of Caspase-1 using anti-Caspase-1 antibody (M00048-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human THP-1 whole cell lysates,
Lane 2: human SiHa whole cell lysates,
Lane 3: human A431 whole cell lysates,
Lane 4: human RT4 whole cell lysates,
Lane 5: mouse EL-4 whole cell lysates,
Lane 6: mouse J774A.1 whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Caspase-1 antigen affinity purified monoclonal antibody (Catalog # M00048-2) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Caspase-1 at approximately 45 kDa. The expected band size for Caspase-1 is at 45 kDa.