Caspase-1 Antibody

For Research Use Only. Not For Use In Diagnostic Procedures.

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**Recommended Antibody Dilutions:**

- Western blotting: 1:1000
- Immunohistochemistry (Paraffin): 1:100
- Unmasking buffer: Citrate
- Antibody diluent: SignalStain® Antibody Diluent #6112

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

## Background

**Caspase-1**, or interleukin-1β converting enzyme (ICE/ICEcaspase-1), is a class I cysteine protease (includes caspase-1, -4, -5, -11, and -12) that cleaves inflammatory cytokines such as pro-IL-1β and interferon-γ inducing factor (IL-18) into their mature forms (1,2). Like other caspases, caspase-1 is proteolytically activated from a proenzyme to produce a tetramer of its two active subunits, p20 and p10. Caspase-1 has a large amino-terminal pro-domain that contains a caspase recruitment domain (CARD). Overexpression of caspase-1 can induce apoptosis (3). Mice deficient in caspase-1, however, have no overt defects in apoptosis but do have defects in the maturation of pro-IL-1β and are resistant to endotoxic shock (4,5). Four alternatively spliced variants of caspase-1 have been identified, designated β, γ, δ and ε (6). Caspase-1α, β, γ and δ produce products between 30-48 kDa and induce apoptosis upon over-expression. Caspase-1α predominately contains just the p10 subunit, does not induce apoptosis and may act as a dominant negative. Activation of caspase-1 occurs through an oligomerization molecular platform designated the “inflammasome” that includes caspase-5, Pycard/Asc, and NALP1 (7).

**Specificity/Sensitivity:** Caspase-1 Antibody detects endogenous levels of pro-caspase-1 and the caspase-1 p20 subunit. The antibody is expected to detect α, γ, γ and δ isoforms.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues within the p20 subunit of human caspase-1. Antibodies are purified by protein A and peptide affinity chromatography.

**Background References:**


## Western Blot Analysis

Western blot analysis of extracts from THP-1 and HL-60 cells, using Caspase-1 Antibody.

## Immunohistochemistry

Immunohistochemical analysis of paraffin-embedded human lung carcinoma, using Caspase-1 Antibody.

## IMPORTANT

For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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