

Caspase-1 (D7F10) Rabbit mAb

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Applications: W, W-S, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 48, 20	Source/Isotype: Rabbit IgG	UniProt ID: #P29466	Entrez-Gene Id: 834
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Product Usage Information**Application**

Western Blotting
Simple Western™
Immunoprecipitation

Dilution

1:1000
1:10 - 1:50
1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Caspase-1 (D7F10) Rabbit mAb detects endogenous levels of full length human Caspase-1. The activated p20 subunit was detected by over-expression.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues within the p20 subunit of human caspase-1.

Background

Caspase-1, or interleukin-1 β converting enzyme (ICE/ICE α), is a class I cysteine protease, which also includes caspases -4, -5, -11, and -12. Caspase-1 cleaves inflammatory cytokines such as pro-IL-1 β 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-1 β and are resistant to endotoxic shock (4,5). At least six caspase-1 isoforms have been identified, including caspase-1 α , β , γ , δ , ϵ , and ζ (6). Most caspase-1 isoforms (α , β , γ , and δ) produce products between 30-48 kDa and induce apoptosis upon overexpression. Caspase-1 ϵ typically contains only the p10 subunit, does not induce apoptosis, and may act as a dominant negative. The widely expressed ζ isoform of caspase-1 induces apoptosis and lacks 39 amino-terminal residues found in the α isoform (6). Activation of caspase-1 occurs through an oligomerization molecular platform designated the "inflammasome" that includes caspase-5, Pycard/Asc, and NALP1 (7).

Background References

1. Thornberry, N.A. et al. (1992) *Nature* 356, 768-74.
2. Martinon, F. and Tschopp, J. (2004) *Cell* 117, 561-74.
3. Miura, M. et al. (1993) *Cell* 75, 653-60.
4. Kuida, K. et al. (1995) *Science* 267, 2000-3.
5. Li, P. et al. (1995) *Cell* 80, 401-11.
6. Feng, Q. et al. (2004) *Genomics* 84, 587-91.
7. Martinon, F. et al. (2002) *Mol Cell* 10, 417-26.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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