

#3866 Store at -20°C

## Caspase-1 (D7F10) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	48, 20	Rabbit IgG	#P29466	834

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
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 $\beta$  converting enzyme (ICE/ICE $\alpha$ ), 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 $\beta$  and interferon- $\gamma$  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 $\beta$  and are resistant to endotoxic shock (4,5). At least six caspase-1 isoforms have been identified, including caspase-1  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$ , and  $\zeta$  (6). Most caspase-1 isoforms ( $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$ ) produce products between 30-48 kDa and induce apoptosis upon overexpression. Caspase-1  $\epsilon$  typically contains only the p10 subunit, does not induce apoptosis, and may act as a dominant negative. The widely expressed  $\zeta$  isoform of caspase-1 induces apoptosis and lacks 39 amino-terminal residues found in the  $\alpha$  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

**WB:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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