#14340 Store at -20C

# Caspase-11 (17D9) Rat mAb

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| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| WB, IP | M | Endogenous | 38, 43 | Rat IgG2a | #P70343 | 12363 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 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-11 (17D9) Rat mAb recognizes endogenous levels of total caspase-11 protein.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the p30 subunit terminus of mouse caspase-11 protein.

## Background

Caspases are a family of aspartate-specific cysteine-dependent proteases that play a critical role in apoptosis as well as inflammatory responses. Pro-inflammatory caspases include caspase-1 and mouse caspase-11 (1). Caspase-11 has about 60% and 55% identity to human caspases-4 and -5, respectively. Caspase-1 cleaves inflammatory cytokines such as pro-IL-1β and IL-18 into their mature forms (2). It is activated by proteolytic cleavage producing a tetramer of its two active subunits, p20 and p10. Canonical activation of caspase-1 occurs through several complex molecular platforms designated “inflammasomes” that include Pycard/Asc, nucleotide-binding oligomerization receptors (NLRs), and AIM2 (3, 4). Non-canonical activation of caspase-1 is triggered by caspase-11, which is transcriptionally induced by toll-like receptor ligands including LPS. Activation of this pathway induces inflammatory cytokines as well as pyroptosis, a form of programmed cell death (5-9). Pyroptosis may be specific for caspase-11, rather than caspase-1, suggesting a unique mechanism for protease.

## Background References

1. Ng, T.M. and Monack, D.M. (2013) *Cell Host Microbe* 14, 9-14.
2. Thornberry, N.A. et al. (1992) *Nature* 356, 768-74.
3. Martinon, F. et al. (2002) *Mol Cell* 10, 417-26.
4. Lamkanfi, M. and Dixit, V.M. (2014) *Cell* 157, 1013-22.
5. Hagar, J.A. et al. (2013) *Science* 341, 1250-3.
6. Kayagaki, N. et al. (2013) *Science* 341, 1246-9.
7. Aachoui, Y. et al. (2013) *Science* 339, 975-8.
8. Broz, P. et al. (2012) *Nature* 490, 288-91.
9. Kayagaki, N. et al. (2011) *Nature* 479, 117-21.

## 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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