

#12948 Store at -20°C

**AIM2 (D5X7K) Rabbit mAb****Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	40	Rabbit IgG	#O14862	9447

**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**

AIM2 (D5X7K) Rabbit mAb recognizes endogenous levels of total AIM2 protein. An unknown band is detected at 22 kDa in some cell lines.

**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 surrounding Lys93 of human AIM2 protein.

**Background**

Absent in melanoma 2 (AIM2) is an interferon-inducible protein containing an amino-terminal pyrin domain and carboxy-terminal HIN-200 domain that functions in innate immunity and tumor progression (1). Expression of AIM2 can inhibit cell growth and tumor formation (2,3). Furthermore, the *AIM2* gene has a high frequency of mutations associated with microsatellite-unstable colorectal cancers (4). AIM2 has a critical role in the activation of caspase-1, the protease responsible for the processing of pro-inflammatory cytokines IL-1 $\beta$  and IL-18. Caspase-1 activation is regulated by multi-protein complexes referred to as "inflammasomes" (5,6). Distinct inflammasome complexes have been described containing NLRP1/NALP1, NLRP3/NALP3, IPAF, and AIM2. The HIN-200 domain of AIM2 is responsible for binding to cytoplasmic double-stranded DNA, resulting in caspase-1 activation. (7-9). This inflammasome complex also involves binding of the pyrin domain of AIM2 to the CARD-domain protein ASC/TMS1, which then interacts directly with caspase-1. As a result, AIM2 has been demonstrated to be an important sensor for a number of different pathogens (10-12).

**Background References**

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2. Chen, I.F. et al. (2006) *Mol Cancer Ther* 5, 1-7.
3. Patsos, G. et al. (2010) *Int J Cancer* 126, 1838-49.
4. Woerner, S.M. et al. (2007) *Genes Chromosomes Cancer* 46, 1080-9.
5. Schroder, K. and Tschopp, J. (2010) *Cell* 140, 821-32.
6. Khare, S. et al. (2010) *Crit Rev Immunol* 30, 463-87.
7. Roberts, T.L. et al. (2009) *Science* 323, 1057-60.
8. Hornung, V. et al. (2009) *Nature* 458, 514-8.
9. Fernandes-Alnemri, T. et al. (2009) *Nature* 458, 509-13.
10. Jones, J.W. et al. (2010) *Proc Natl Acad Sci USA* 107, 9771-6.
11. Fernandes-Alnemri, T. et al. (2010) *Nat Immunol* 11, 385-93.
12. Kim, S. et al. (2010) *Eur J Immunol* 40, 1545-51.

**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**Trademarks and Patents**

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