Revision 4

Store at -20C

#12948

AIM2 (D5X7K) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, 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-1β 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

1. DeYoung, K.L. et al. (1997) *Oncogene* 15, 453-7.
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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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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Limited Uses

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