

# AIM2 (3C4G11): sc-293174

## BACKGROUND

Interferon-inducible protein AIM2 (absent in melanoma 2) is a 343 amino acid protein belonging to the HIN-200 family. Induced by IFN- $\gamma$ , AIM2 is thought to act as a tumor suppressor by repressing NF $\kappa$ B transcriptional activity. Localized to the nucleus, AIM2 contains one DAPIN domain and one HIN-200 domain. The DAPIN domain is composed mostly of  $\alpha$ -helices and is a protein-protein interaction domain capable of binding other DAPIN domains. The HIN-200 domain has been shown to bind directly to DNA, which, along with the binding of another protein ASC, results in the activation of caspase-1. AIM2 is present as a homodimer and is expressed highly in small intestine, testis, peripheral blood leukocytes and spleen. Defects in AIM2 are believed to be a cause of microsatellite unstable colon cancers.

## REFERENCES

- DeYoung, K.L., et al. 1997. Cloning a novel member of the human interferon-inducible gene family associated with control of tumorigenicity in a model of human melanoma. *Oncogene* 15: 453-457.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604578. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: AIM2 (human) mapping to 1q23.1; Aim2 (mouse) mapping to 1 H3.

## SOURCE

AIM2 (3C4G11) is a mouse monoclonal antibody raised against amino acids 1-195 of AIM2 of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

AIM2 (3C4G11) is recommended for detection of AIM2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AIM2 siRNA (h): sc-88166, AIM2 siRNA (m): sc-140968, AIM2 shRNA Plasmid (h): sc-88166-SH, AIM2 shRNA Plasmid (m): sc-140968-SH, AIM2 shRNA (h) Lentiviral Particles: sc-88166-V and AIM2 shRNA (m) Lentiviral Particles: sc-140968-V.

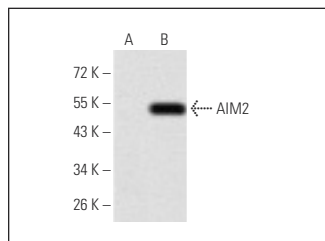
Molecular Weight of AIM2: 39 kDa.

Positive Controls: human AIM2 (1-195)-hlgGfC transfected HEK293 whole cell lysate.

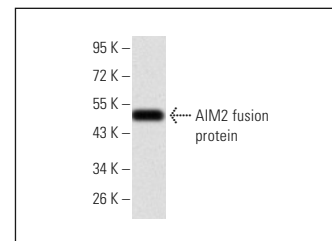
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



AIM2 (3C4G11): sc-293174. Western blot analysis of AIM2 expression in non-transfected (A) and human AIM2 (1-195)-hlgGfC transfected (B) HEK293 whole cell lysates.



AIM2 (3C4G11): sc-293174. Western blot analysis of human recombinant AIM2 (1-195) fusion protein.

## SELECT PRODUCT CITATIONS

- Zhang, M., et al. 2019. AIM2 promotes non-small-cell lung cancer cell growth through inflammasome-dependent pathway. *J. Cell. Physiol.* 234: 20161-20173.
- Gao, J., et al. 2019. Inhibition of AIM2 inflammasome-mediated pyroptosis by andrographolide contributes to amelioration of radiation-induced lung inflammation and fibrosis. *Cell Death Dis.* 10: 957.
- Majidpoor, J., et al. 2020. The expressions of NLRP1, NLRP3, and AIM2 inflammasome complexes in the contusive spinal cord injury rat model and their responses to hormonal therapy. *Cell Tissue Res.* 381: 397-410.
- Wu, T., et al. 2020. 5-androstenediol prevents radiation injury in mice by promoting NF $\kappa$ B signaling and inhibiting AIM2 inflammasome activation. *Biomed. Pharmacother.* 121: 109597.
- Logan, S.M. and Storey, K.B. 2021. Inflammasome signaling could be used to sense and respond to endogenous damage in brown but not white adipose tissue of a hibernating ground squirrel. *Dev. Comp. Immunol.* 114: 103819.
- Nie, L., et al. 2021. Diabetes induces macrophage dysfunction through cytoplasmic dsDNA/AIM2 associated pyroptosis. *J. Leukoc. Biol.* 110: 497-510.
- Shao, R., et al. 2021. The balance between AIM2-associated inflammation and autophagy: the role of CHMP2A in brain injury after cardiac arrest. *J. Neuroinflammation* 18: 257.
- Cao, L.L., et al. 2021. Downregulating expression of OPTN elevates neuroinflammation via AIM2 inflammasome- and RIPK1-activating mechanisms in APP/PS1 transgenic mice. *J. Neuroinflammation* 18: 281.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.