

AIM2 (F-11): sc-515642

BACKGROUND

Interferon-inducible protein AIM2 (absent in melanoma 2) is a 343 amino acid protein belonging to the HIN-200 family. Induced by IFN- γ , AIM2 is thought to act as a tumor suppressor by repressing NF κ B transcriptional activity. Localized to the nucleus, AIM2 contains one DAPIN domain and one HIN-200 domain. The DAPIN domain is composed mostly of α -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™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604578. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Cresswell, K.S., et al. 2005. Biochemical and growth regulatory activities of the HIN-200 family member and putative tumor suppressor protein, AIM2. *Biochem. Biophys. Res. Commun.* 326: 417-424.
- Chen, I.F., et al. 2006. AIM2 suppresses human breast cancer cell proliferation *in vitro* and mammary tumor growth in a mouse model. *Mol. Cancer Ther.* 5: 1-7.
- Woerner, S.M., et al. 2007. The putative tumor suppressor AIM2 is frequently affected by different genetic alterations in microsatellite unstable colon cancers. *Genes Chromosomes Cancer* 46: 1080-1089.
- Fernandes-Alnemri, T., et al. 2009. AIM2 activates the inflammasome and cell death in response to cytoplasmic DNA. *Nature* 58: 509-513.
- Hornung, V., et al. 2009. AIM2 recognizes cytosolic dsDNA and forms a caspase-1-activating inflammasome with ASC. *Nature* 458: 514-518.

CHROMOSOMAL LOCATION

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

SOURCE

AIM2 (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-32 near the N-terminus of AIM2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515642 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

AIM2 (F-11) is recommended for detection of AIM2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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.

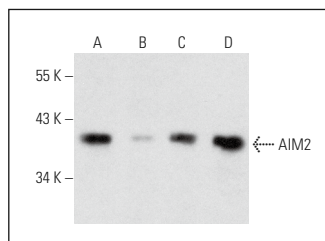
Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

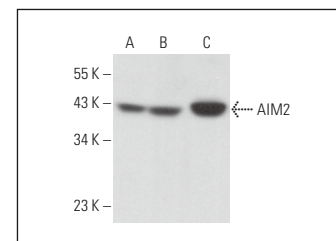
To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



AIM2 (F-11): sc-515642. Western blot analysis of AIM2 expression in Jurkat (A), Hep G2 (B), HeLa (C) and MCF7 (D) whole cell lysates.



AIM2 (F-11): sc-515642. Western blot analysis of AIM2 expression in MCF7 (A), MDA-MB-231 (B) and NIH/3T3 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Luo, Y., et al. 2021. CMPK2 accelerates liver ischemia/reperfusion injury via the NLRP3 signaling pathway. *Exp. Ther. Med.* 22: 1358.

STORAGE

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

RESEARCH USE

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