SANTA CRUZ BIOTECHNOLOGY, INC.

AIM2 (B-8): sc-515514

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 NFκB transcriptional activity. Localized to the nucleus, AIM2 contains one DAPIN domain and one HIN-200 domain. The DAPIN domain is composed mostly of α-helixes 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.

CHROMOSOMAL LOCATION

Genetic locus: AIM2 (human) mapping to 1q23.1.

SOURCE

AIM2 (B-8) is a mouse monoclonal antibody raised against amino acids 10-179 mapping near the N-terminus of AIM2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AIM2 (B-8) is available conjugated to agarose (sc-515514 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515514 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515514 PE), fluorescein (sc-515514 FITC), Alexa Fluor® 488 (sc-515514 AF488), Alexa Fluor® 546 (sc-515514 AF546), Alexa Fluor® 594 (sc-515514 AF594) or Alexa Fluor® 647 (sc-515514 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515514 AF680) or Alexa Fluor® 790 (sc-515514 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

AIM2 (B-8) is recommended for detection of AIM2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-88166-SH and AIM2 shRNA (h) Lentiviral Particles: sc-88166-V.

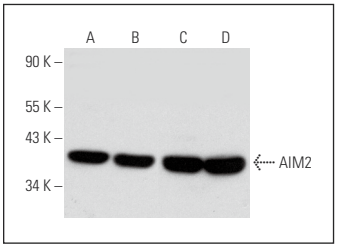
Molecular Weight of AIM2: 39 kDa.

Positive Controls: human testis extract: sc-363781, human spleen extract: sc-363779 or HeLa whole cell lysate: sc-2200.

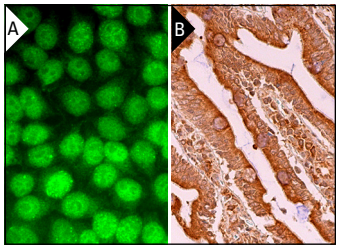
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AIM2 (B-8): sc-515514. Western blot analysis of AIM2 expression in HeLa whole cell lysate (**A**) and human small intestine (**B**), human testis (**C**) and human spleen (**D**) tissue extracts.



AIM2 (B-8): sc-515514. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and faint nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Liles, J.T., et al. 2018. ASK1 contributes to fibrosis and dysfunction in models of kidney disease. J. Clin. Invest. 128: 4485-4500.
2. Chai, D., et al. 2018. AIM2 is a potential therapeutic target in human renal carcinoma and suppresses its invasion and metastasis via enhancing autophagy induction. Exp. Cell Res. 370: 561-570.
3. Nguyen, C.T., et al. 2018. Inhibitory effects of superoxide dismutase 3 on *Propionibacterium acnes*-induced skin inflammation. Sci. Rep. 8: 4024.
4. Bosso, M., et al. 2020. Nuclear PYHIN proteins target the host transcription factor Sp1 thereby restricting HIV-1 in human macrophages and $CD4^+$ T cells. PLoS Pathog. 16: e1008752.
5. Xu, S.Y., et al. 2021. AIM2 deletion enhances blood-brain barrier integrity in experimental ischemic stroke. CNS Neurosci. Ther. 27: 1224-1237.
6. Wu, Y., et al. 2022. AIM2 inflammasome contributes to aldosterone-induced renal injury via endoplasmic reticulum stress. Clin. Sci. 136: 103-120.
7. Ye, L., et al. 2023. Absent in melanoma 2 mediates aging-related cognitive dysfunction by acting on complement-dependent microglial phagocytosis. Aging Cell 22: e13860.

STORAGE

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