SANTA CRUZ BIOTECHNOLOGY, INC.

ASC (F-9): sc-271054

BACKGROUND

Caspase-associated recruitment domains (CARDs) mediate the interaction between adaptor proteins such as Apaf-1 and the proform of caspases (e.g., CASP9) participating in apoptosis. ASC (apoptosis-associated speck-like protein containing a CARD, also known as TMS1or PYCARD) is a member of the CARD-containing adaptor protein family. ASC is a 195 amino acid protein, containing a N-terminal Pyrin-like domain (PYD) and an 87 residue C-terminal CARD. This motif is characteristic of numerous proteins involved in apoptotic signaling. Fluorescence microscopy demonstrates a ring-like expression in some transfected cells. Immunofluorescence microscopy demonstrates that induction of apoptosis causes a CARD-dependent shift from diffuse cytoplasmic expression to punctate or spherical perinuclear aggregates. Western blot analysis shows expression of ASC in leukemia and melanoma cell lines. ASC exhibits intriguing behavior by forming an aggregate and appearing as a speck during apoptosis induced by retinoic acid and other anti-tumor drugs. The ASC gene maps to human chromosome 16p11.2.

CHROMOSOMAL LOCATION

Genetic locus: PYCARD (human) mapping to 16p11.2; Pycard (mouse) mapping to 7 F3.

SOURCE

ASC (F-9) is a mouse monoclonal antibody raised against amino acids 1-120 mapping at the N-terminus of ASC 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.

ASC (F-9) is available conjugated to agarose (sc-271054 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271054 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271054 PE), fluorescein (sc-271054 FITC), Alexa Fluor® 488 (sc-271054 AF488), Alexa Fluor® 546 (sc-271054 AF546), Alexa Fluor® 594 (sc-271054 AF594) or Alexa Fluor® 647 (sc-271054 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271054 AF680) or Alexa Fluor® 790 (sc-271054 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ASC (F-9) is recommended for detection of ASC of mouse, rat and 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).

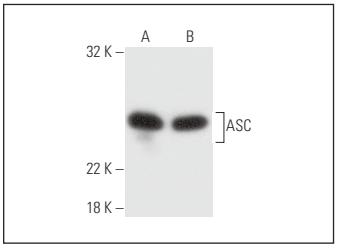
Suitable for use as control antibody for ASC siRNA (h): sc-37281, ASC siRNA (m): sc-37282, ASC shRNA Plasmid (h): sc-37281-SH, ASC shRNA Plasmid (m): sc-37282-SH, ASC shRNA (h) Lentiviral Particles: sc-37281-V and ASC shRNA (m) Lentiviral Particles: sc-37282-V.

Molecular Weight of ASC: 24 kDa.

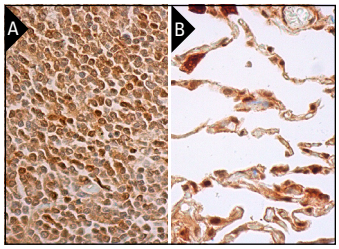
STORAGE

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

DATA



ASC (F-9): sc-271054. Western blot analysis of ASC expression in SK-MEL-28 (**A**) and K-562 (**B**) whole cell lysates.



ASC (F-9): sc-271054. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic and nuclear staining of cells in white pulp and cells in red pulp (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and nuclear staining of pneumocytes and macrophages (**B**).

SELECT PRODUCT CITATIONS

1. Zhang, X., et al. 2012. Enterohemorrhagic *Escherichia coli* specific enterohemolysin induced IL-1β in human macrophages and EHEC-induced IL-1β required activation of NLRP3 inflammasome. PLoS ONE 7: e50288.
2. Bednash, J.S., et al. 2017. Targeting the deubiquitinase STAMBP inhibits NALP7 inflammasome activity. Nat. Commun. 8: 15203.
3. Thankam, F.G., et al. 2018. Association of inflammatory responses and ECM disorganization with HMGB1 upregulation and NLRP3 inflammasome activation in the injured rotator cuff tendon. Sci. Rep. 8: 8918.
4. Tan, S., et al. 2019. The molecular mechanisms associated with the effects of propofol in a rat model of pain due to inflammation following injection with complete freund's adjuvant. Med. Sci. Monit. 25: 10190-10197.
5. Wang, W., et al. 2020. Paxillin mediates ATP-induced activation of P2X7 receptor and NLRP3 inflammasome. BMC Biol. 18: 182.
6. Liu, J.W., et al. 2021. SFTSV infection induced Interleukin-1β secretion through NLRP3 inflammasome activation. Front. Immunol. 12: 595140.
7. Li, Z., et al. 2022. Activation of the NLRP3 inflammasome and elevation of interleukin-1β secretion in infection by sever fever with thrombocytopenia syndrome virus. Sci. Rep. 12: 2573.
8. Chhunchha, B., et al. 2023. Prdx6 regulates Nlrp3 inflammasome activation-driven inflammatory response in lens epithelial cells. Int. J. Mol. Sci. 24: 16276.
9. Pereira-Santos, A.R., et al. 2024. Neuronal control of microglia through the mitochondria. Biochim. Biophys. Acta Mol. Basis Dis. 1870: 167167.

RESEARCH USE

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