SANTA CRUZ BIOTECHNOLOGY, INC.

ASC (B-3): sc-514414

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 174-195 at the C-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 (B-3) is available conjugated to agarose (sc-514414 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514414 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514414 PE), fluorescein (sc-514414 FITC), Alexa Fluor® 488 (sc-514414 AF488), Alexa Fluor® 546 (sc-514414 AF546), Alexa Fluor® 594 (sc-514414 AF594) or Alexa Fluor® 647 (sc-514414 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514414 AF680) or Alexa Fluor® 790 (sc-514414 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, ASC (B-3) is available conjugated to biotin (sc-514414 B), 200 µg/ml, for WB, IHC(P) and ELISA.

Blocking peptide available for competition studies, sc-514414 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

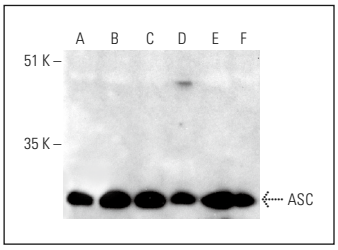
ASC (B-3) is recommended for detection of ASC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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.

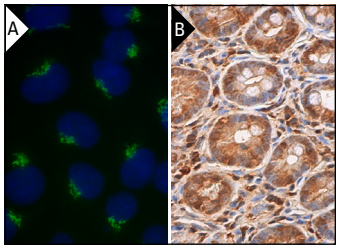
Molecular Weight of ASC: 24 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, MCF7 whole cell lysate: sc-2206 or THP-1 cell lysate: sc-2238.

DATA



ASC (B-3) HRP: sc-514414 HRP. Direct western blot analysis of ASC expression in SK-MEL-28 (**A**), HL-60 (**B**), U-937 (**C**), MCF7 (**D**), THP-1 (**E**) and K-562 (**F**) whole cell lysates.



ASC (B-3): sc-514414. Immunofluorescence staining of methanol-fixed HeLa cells showing perinuclear aggregates localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and nuclear staining of glandular cells and cytoplasmic staining of Interstitial cells (**B**).

SELECT PRODUCT CITATIONS

1. Huang, F., et al. 2017. Beneficial effect of magnolol on lupus nephritis in MRL/lpr mice by attenuating the NLRP3 inflammasome and NFκB signaling pathway: a mechanistic analysis. Mol. Med. Rep. 16: 4817-4822.
2. Shi, Y., et al. 2020. Ginsenoside Rg3 suppresses the NLRP3 inflammasome activation through inhibition of its assembly. FASEB J. 34: 208-221.
3. Wang, H., et al. 2021. Aspartate metabolism facilitates IL-1β production in inflammatory macrophages. Front. Immunol. 12: 753092.
4. Hsu, C.G., et al. 2022. The lipid peroxidation product 4-hydroxynonenal inhibits NLRP3 inflammasome activation and macrophage pyroptosis. Cell Death Differ. 29: 1790-1803.
5. Mound, A., et al. 2023. The NLRP6 protein is very faintly expressed in several normal and cancerous epithelial cells and may be confused with an unrelated protein. PLoS ONE 18: e0279028.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.