

# ASC (D-3): sc-514559

## 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 TMS1 or 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.

## SOURCE

ASC (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 170-195 at the C-terminus of ASC of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-514559 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

ASC (D-3) is recommended for detection of ASC 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 ASC siRNA (h): sc-37281, ASC shRNA Plasmid (h): sc-37281-SH and ASC shRNA (h) Lentiviral Particles: sc-37281-V.

Molecular Weight of ASC: 24 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, SK-MEL-28 cell lysate: sc-2236 or HL-60 whole cell lysate: sc-2209.

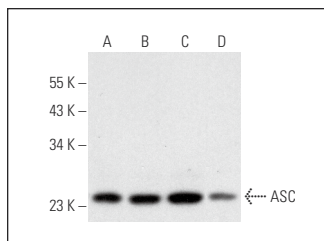
## STORAGE

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

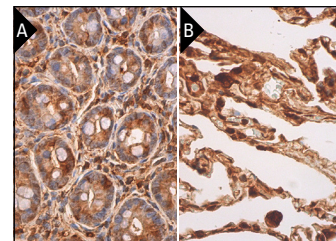
## RESEARCH USE

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

## DATA



ASC (D-3): sc-514559. Western blot analysis of ASC expression in K-562 (A), SK-MEL-28 (B), HL-60 (C) and MCF7 (D) whole cell lysates.



ASC (D-3): sc-514559. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and nuclear staining of glandular cells and interstitial cells, and cytoplasmic staining of endothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and nuclear staining of pneumocytes and macrophages (B).

## SELECT PRODUCT CITATIONS

- Dhar, R., et al. 2019. Electroacupuncture ameliorates cardiopulmonary bypass induced apoptosis in lung via ROS/Nrf2/NLRP3 inflammasome pathway. *Life Sci.* 238: 116962.
- Qian, B., et al. 2020. Ameliorative effect of sinapic acid on dextran sodium sulfate- (DSS-) induced ulcerative colitis in kunming (KM) mice. *Oxid. Med. Cell. Longev.* 2020: 8393504.
- Dhar, R., et al. 2021. Phosphodiesterase 4B is required for NLRP3 inflammasome activation by positive feedback with Nrf2 in the early phase of LPS- induced acute lung injury. *Free Radic. Biol. Med.* 176: 378-391.
- Dhar, R., et al. 2022. Time-dependent changes in NLRP3 and Nrf2 levels in lipopolysaccharide-induced acute lung injury. *Int. J. Mol. Med.* 50: 142.
- Zhao, Z., et al. 2024. Knockdown of DAPK1 inhibits IL-1β-induced inflammation and cartilage degradation in human chondrocytes by modulating the PEDF-mediated NFκB and NLRP3 inflammasome pathway. *Innate Immun.* 30: 21-30.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **ASC (B-3): sc-514414** for ASC antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.