

caspase-3 (46): sc-136219

BACKGROUND

Caspase-3, also known as apopain, SCA-1, Yama and CPP32, is an aspartate-specific cysteine protease that belongs to the ICE subfamily of caspases. Caspase-3 is expressed in cells as an inactive precursor from which the p17 and p11 subunits of the mature caspase-3 are proteolytically generated during apoptosis. The caspase-3 precursor is first cleaved at Asp175-Ser176 to produce the p11 subunit and the p20 peptide. Subsequently, the p20 peptide is cleaved at Asp28-Ser29 to generate the mature p17 subunit. The active caspase-3 enzyme is a heterodimer composed of two p17 and two p11 subunits. At the onset of apoptosis, caspase-3 proteolytically cleaves PARP at an Asp216-Gly217 bond. During the execution of the apoptotic cascade, activated caspase-3 releases SREBP from the membrane of the ER in a proteolytic reaction that is distinct from their normal sterol-dependent activation. Caspase-3 cleaves and activates SREBPs between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Caspase-3 also cleaves and activates caspase-6, -7 and -9. The human caspase-3 gene encodes a cytoplasmic protein that is highly expressed in lung, spleen, heart, liver, kidney and cells of the immune system.

CHROMOSOMAL LOCATION

Genetic locus: CASP3 (human) mapping to 4q35.1; Casp3 (mouse) mapping to 8 B1.1.

SOURCE

caspase-3 (46) is a mouse monoclonal antibody raised against amino acids 25-145 of caspase-3 of mouse origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136219 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

caspase-3 (46) is recommended for detection of p17 caspase-3 subunit and full length procaspase-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for caspase-3 siRNA (h): sc-29237, caspase-3 siRNA (m): sc-29927, caspase-3 shRNA Plasmid (h): sc-29237-SH, caspase-3 shRNA Plasmid (m): sc-29927-SH, caspase-3 shRNA (h) Lentiviral Particles: sc-29237-V and caspase-3 shRNA (m) Lentiviral Particles: sc-29927-V.

Molecular Weight of procaspase-3: 32 kDa.

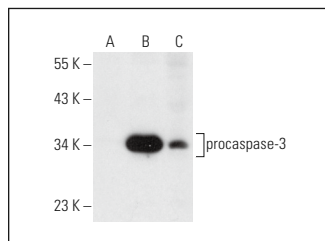
Molecular Weight of caspase-3 subunits: 11/17/20 kDa.

Positive Controls: caspase-3 (h): 293T Lysate: sc-113427 or Jurkat whole cell lysate: sc-2204.

STORAGE

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

DATA



caspase-3 (46): sc-136219. Western blot analysis of procaspase-3 expression in non-transfected 293T: sc-117752 (A), human caspase-3 transfected 293T: sc-113427 (B) and Jurkat (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Huang, J., et al. 2011. Involvement of MAPK phosphatase-1 in dexamethasone-induced chemoresistance in lung cancer. *J. Chemother.* 23: 221-226.
- Guo, M., et al. 2014. Baicalin inhibits *Staphylococcus aureus*-induced apoptosis by regulating TLR2 and TLR2-related apoptotic factors in the mouse mammary glands. *Eur. J. Pharmacol.* 723: 481-488.
- Ortiz, F., et al. 2015. Melatonin blunts the mitochondrial/NLRP3 connection and protects against radiation-induced oral mucositis. *J. Pineal Res.* 58: 34-49.
- Somanna, N.K., et al. 2016. Histone deacetyltransferase inhibitors Trichostatin A and Mocetinostat differentially regulate MMP9, IL-18 and RECK expression, and attenuate angiotensin II-induced cardiac fibroblast migration and proliferation. *Hypertens. Res.* 39: 709-716.
- Zhao, X., et al. 2017. Physapubescin B inhibits tumorigenesis and circumvents taxol resistance of ovarian cancer cells through STAT3 signaling. *Oncotarget* 8: 70130-70141.
- You, P., et al. 2018. Local level of TGF-β1 determines the effectiveness of dexamethasone through regulating the balance of Treg/Th17 cells in TNBS-induced mouse colitis. *Exp. Ther. Med.* 15: 3639-3649.
- Yu, H., et al. 2019. Protective roles of isoastilbin against Alzheimer's disease via Nrf2-mediated antioxidation and anti-apoptosis. *Int. J. Mol. Med.* 43: 1406-1416.

RESEARCH USE

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



See **caspase-3 p11 (C-6): sc-271759** for caspase-3 p11 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.