

caspase-3 p11 (K-19): sc-1224

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 Asp 175-Ser 176 to produce the p11 subunit and the p20 peptide. Subsequently, the p20 peptide is cleaved at Asp 28-Ser 29 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 a Asp 216-Gly 217 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 p11 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of caspase-3 p11 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1224 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-3 p11 (K-19) is recommended for detection of caspase-3 p11 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), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); partially cross-reactive with caspase-7.

caspase-3 p11 (K-19) is also recommended for detection of caspase-3 p11 subunit and full length procaspase-3 in additional species, including equine, canine, bovine, porcine, avian and feline.

Molecular Weight of procaspase-3: 32 kDa.

Molecular Weight of caspase-3 p11: 11 kDa.

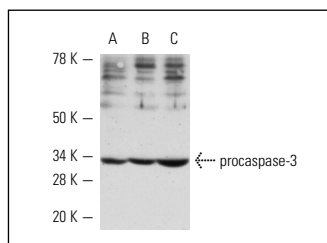
STORAGE

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

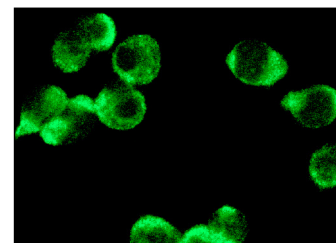
RESEARCH USE

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

DATA



caspase-3 p11 (K-19): sc-1224. Western blot analysis of caspase-3 precursor expression in Jurkat (A), HuT 78 (B) and CCRF-HSB-2 (C) whole cell lysates.



caspase-3 p11 (K-19): sc-1224. Immunofluorescence staining of methanol-fixed HuT 78 cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

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4. Niu, J., et al. 2007. siRNA-mediated type 1 Insulin-like growth factor receptor silencing induces chemosensitization of a human liver cancer cell line with mutant P53. *Cell Biol. Int.* 31: 156-164.
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7. Chen, Z.Y., et al. 2009. Induced apoptosis with ultrasound-mediated microbubble destruction and shRNA targeting survivin in transplanted tumors. *Adv. Ther.* 26: 99-106.
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11. Gutiérrez, A.G., et al. 2013. Copper(II) mixed chelate compounds induce apoptosis through reactive oxygen species in neuroblastoma cell line CHP-212. *J. Inorg. Biochem.* 126: 17-25.