

caspase-3 p20 (N-19): sc-1226

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.

SOURCE

caspase-3 p20 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of caspase-3 p20 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-1226 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-1226 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

caspase-3 p20 (N-19) is recommended for detection of caspase-3 p20 subunit and full length procaspase-3 of 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)], 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); non cross-reactive with other known caspases.

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

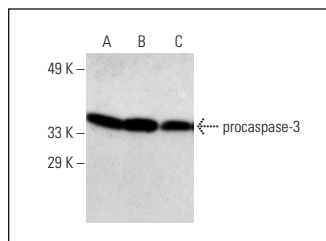
Molecular Weight of procaspase-3: 32 kDa.

Molecular Weight of caspase-3 p20: 20 kDa.

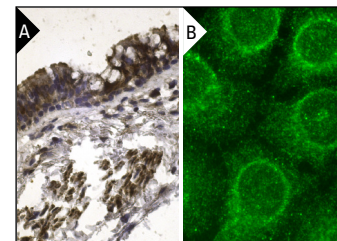
STORAGE

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

DATA



caspase-3 p20 (N-19): sc-1226. Western blot analysis of caspase-3 precursor expression in Jurkat (A), HuT 78 (B) and CCRF-HSB-2 (C) whole cell lysates.



caspase-3 p20 (N-19): sc-1226. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Dimmeler, S., et al. 1997. Oxidized low-density lipoprotein induces apoptosis of human endothelial cells by activation of CPP32-like proteases. A mechanistic clue to the "response to injury" hypothesis. *Circulation* 95: 1760-1763.
- Lee, M.Y., et al. 2011. Identification and anti-human glioblastoma activity of tagitinin C from *Tithonia diversifolia* methanolic extract. *J. Agric. Food Chem.* 59: 2347-2355.
- Wang, O., et al. 2011. Anticancer activity of 2 α , 3 α , 19 β , 23 β -Tetrahydroxyurs-12-en-28-oic acid (THA), a novel triterpenoid isolated from *Sinojackia sarcocarpa*. *PLoS ONE* 6: e21130.
- Xiao, X.Y., et al. 2011. Licochalcone A inhibits growth of gastric cancer cells by arresting cell cycle progression and inducing apoptosis. *Cancer Lett.* 302: 69-75.
- Wu, Y.L., et al. 2011. 25-OCH₃-PPD induces the apoptosis of activated t-HSC/Cl-6 cells via c-FLIP-mediated NF κ B activation. *Chem. Biol. Interact.* 194: 106-112.
- Liao, M.H., et al. 2013. Anti-human hepatoma Hep-G2 proliferative, apoptotic, and antimutagenic activity of tagitinin C from *Tithonia diversifolia* leaves. *J. Nat. Med.* 67: 98-106.

RESEARCH USE

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



Try **caspase-3 (E-8): sc-7272** or **caspase-3 (46): sc-136219**, our highly recommended monoclonal alternatives to caspase-3 p20 (N-19).