

caspase-3 (L-18): sc-1225

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 (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-3 p20 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1225 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-3 (L-18) is recommended for detection of caspase-3 p20 and p17 subunits 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)], 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 (L-18) is also recommended for detection of caspase-3 p20 and p17 subunits and full length procaspase-3 in additional species, including equine, canine, bovine, porcine and feline.

Molecular Weight of caspase-3 precursor: 32 kDa.

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

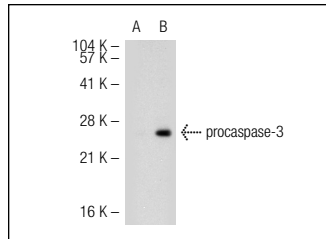
STORAGE

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

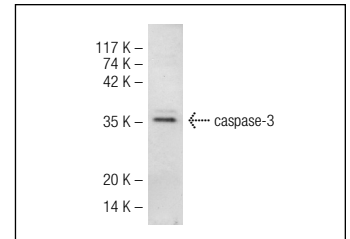
RESEARCH USE

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

DATA



caspase-3 (L-18): sc-1225. Western blot analysis of caspase-3 expression in non-transfected: sc-117752 (A) and human caspase-3 transfected: sc-113427 (B) 293T whole cell lysates.



caspase-3 (L-18): sc-1225. Western blot analysis of caspase-3 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

- Chen, Y.R., et al. 1998. Molecular mechanisms of c-Jun N-terminal kinase-mediated apoptosis induced by anticarcinogenic isothiocyanates. *J. Biol. Chem.* 273: 1769-1775.
- Gottlob, K., et al. 1998. The hepatitis B virus HBx protein inhibits caspase-3 activity. *J. Biol. Chem.* 273: 33347-33353.
- Ndour, P.A., et al. 2012. Inhibition of latent membrane protein 1 impairs the growth and tumorigenesis of latency II Epstein-Barr virus-transformed T cells. *J. Virol.* 86: 3934-3943.
- Wang, J., et al. 2012. Knockdown of cyclin D1 inhibits proliferation, induces apoptosis, and attenuates the invasive capacity of human glioblastoma cells. *J. Neurooncol.* 106: 473-484.
- Cui, Y., et al. 2012. Knockdown of AKT2 expression by RNA interference inhibits proliferation, enhances apoptosis, and increases chemosensitivity to the anticancer drug VM-26 in U87 glioma cells. *Brain Res.* 1469: 1-9.
- Bonior, J., et al. 2012. Long-lasting effect of infant rats endotoxemia on heat shock protein 60 in the pancreatic acinar cells: involvement of toll-like receptor 4. *Int. J. Inflam.* 2012: 354904.
- Yang, Y.C., et al. 2013. Androgen receptor inclusions acquire GRP78/BiP to ameliorate androgen-induced protein misfolding stress in embryonic stem cells. *Cell Death Dis.* 4: e607.
- Wang, Q., et al. 2013. RLIP76 is overexpressed in human glioblastomas and is required for proliferation, tumorigenesis and suppression of apoptosis. *Carcinogenesis* 34: 916-926.


 MONOS
Satisfaction
Guaranteed

Try **caspase-3 (E-8): sc-7272** or **caspase-3 (46): sc-136219**, our highly recommended monoclonal alternatives to caspase-3 (L-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **caspase-3 (E-8): sc-7272**.