

# caspase-3 (3CSP01): sc-65496

## 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 (3CSP01) is a mouse monoclonal antibody raised against full length caspase-3 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.

## APPLICATIONS

caspase-3 (3CSP01) is recommended for detection of caspase-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 immunohistochemistry (including paraffin-embedded sections) (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: BJAB whole cell lysate: sc-2207, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

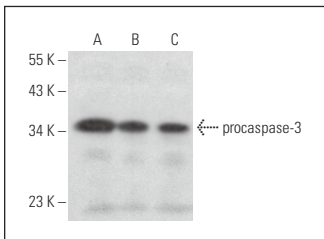
## RESEARCH USE

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

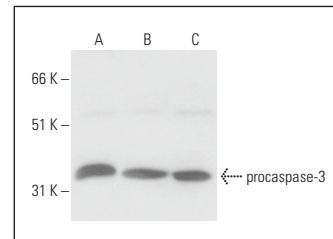
## STORAGE

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

## DATA



caspase-3 (3CSP01): sc-65496. Western blot analysis of procaspase-3 expression in Jurkat (A), BJAB (B) and Ramos (C) whole cell lysates.



caspase-3 (3CSP01): sc-65496. Western blot analysis of procaspase-3 expression in CCRF-CEM (A), CCRF-HSB-2 (B) and Jurkat (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Ju, J., et al. 2013. Toosendanin induces apoptosis through suppression of JNK signaling pathway in HL-60 cells. *Toxicol. In Vitro* 27: 232-238.
- Zhao, D., et al. 2014. Autophagy prevents doxorubicin-induced apoptosis in osteosarcoma. *Mol. Med. Rep.* 9: 1975-1981.
- Tao, R., et al. 2015. Association between indel polymorphism in the promoter region of lncRNA GAS5 and the risk of hepatocellular carcinoma. *Carcinogenesis* 36: 1136-1143.
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- Liu, M., et al. 2016. Impact of ethyl pyruvate on Adriamycin-induced cardiomyopathy in rats. *Exp. Ther. Med.* 12: 3201-3208.
- Zhao, Y.H., et al. 2017. Long non-coding RNA H19 induces hippocampal neuronal apoptosis via Wnt signaling in a streptozotocin-induced rat model of diabetes mellitus. *Oncotarget* 8: 64827-64839.
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- Zhang, C., et al. 2019. Effects of miR-103a-3p on the autophagy and apoptosis of cardiomyocytes by regulating Atg5. *Int. J. Mol. Med.* 43: 1951-1960.
- Li, H., et al. 2019. Knockdown of diacylglycerol kinase zeta (DGKZ) induces apoptosis and G2/M phase arrest in human acute myeloid leukemia HL-60 cells through MAPK/survivin/caspase pathway. *Pharmazie* 74: 418-422.

## CONJUGATES

See **caspase-3 (E-8): sc-7272** for caspase-3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.