

# caspase-3 p17 (B-4): sc-271028

## 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.

## REFERENCES

- Nicholson, D., et al. 1995. Identification and inhibition of the ICE/CED-3 protease necessary for mammalian apoptosis. *Nature* 37: 37-43.
- Cohen, G.M. 1997. Caspases: the executioners of apoptosis. *Biochem. J.* 326: 1-16.
- Higgins, M.E., et al. 2001. Apoptosis-induced release of mature sterol regulatory element-binding proteins activates sterol-responsive genes. *J. Lipid Res.* 42: 1939-1946.

## CHROMOSOMAL LOCATION

Genetic locus: CASP3 (human) mapping to 4q35.1.

## SOURCE

caspase-3 p17 (B-4) is a mouse monoclonal antibody raised against amino acids 56-104 mapping near the N-terminus of 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.

caspase-3 p17 (B-4) is available conjugated to agarose (sc-271028 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271028 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271028 PE), fluorescein (sc-271028 FITC), Alexa Fluor® 488 (sc-271028 AF488), Alexa Fluor® 546 (sc-271028 AF546), Alexa Fluor® 594 (sc-271028 AF594) or Alexa Fluor® 647 (sc-271028 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271028 AF680) or Alexa Fluor® 790 (sc-271028 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

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

## APPLICATIONS

caspase-3 p17 (B-4) is recommended for detection of p17 subunit and full length precursor of caspase-3 of human origin by Western Blotting (starting dilution 1:100, 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).

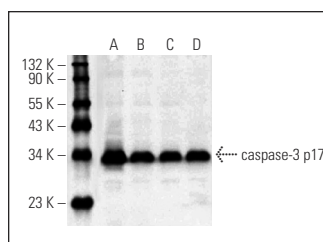
Suitable for use as control antibody for caspase-3 siRNA (h): sc-29237, caspase-3 shRNA Plasmid (h): sc-29237-SH and caspase-3 shRNA (h) Lentiviral Particles: sc-29237-V.

Molecular Weight of procaspase-3: 32 kDa.

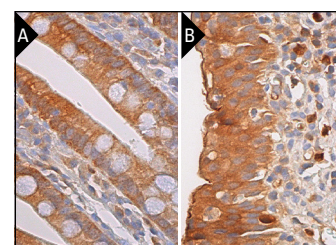
Molecular Weight of caspase-3 p17: 17 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, SUP-T1 whole cell lysate: sc-364796 or K-562 whole cell lysate: sc-2203.

## DATA



caspase-3 p17 (B-4) HRP: sc-271028 HRP. Direct western blot analysis of caspase-3 p17 expression in BJAB (A), SUP-T1 (B), K-562 (C) and Hep G2 (D) whole cell lysates. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-HRP: sc-516732.



caspase-3 p17 (B-4): sc-271028. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (B).

## SELECT PRODUCT CITATIONS

- Aydemir, E.A., et al. 2011. *Glycyrrhiza flavescens* subsp. *antalyensis* exerts antiproliferative effects on melanoma cells via altering TNF- $\alpha$  and IFN- $\alpha$  levels. *Food Chem. Toxicol.* 49: 820-828.
- You, P., et al. 2018. Local level of TGF- $\beta$ 1 determines the effectiveness of dexamethasone through regulating the balance of Treg/Th17 cells in TNBS-induced mouse colitis. *Exp. Ther. Med.* 15: 3639-3649.
- Silva-Hirschberg, C., et al. 2019. Cytotoxic impact of a perillyl alcohol-temozolomide conjugate, NEO212, on cutaneous T-cell lymphoma *in vitro*. *Ther. Adv. Med. Oncol.* 11: 1758835919891567.
- Carneiro de Lima, D., et al. 2020. Simultaneous measurement of perillyl alcohol and its metabolite perillic acid in plasma and lung after inhalational administration in Wistar rats. *Drug Test. Anal.* 12: 268-279.

## STORAGE

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