

# caspase-3 (E-8): sc-7272

## 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 (E-8) is a mouse monoclonal antibody epitope corresponding to amino acids 1-277 representing full length procaspase-3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

caspase-3 (E-8) is available conjugated to agarose (sc-7272 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7272 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7272 PE), fluorescein (sc-7272 FITC), Alexa Fluor<sup>®</sup> 488 (sc-7272 AF488), Alexa Fluor<sup>®</sup> 546 (sc-7272 AF546), Alexa Fluor<sup>®</sup> 594 (sc-7272 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-7272 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-7272 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-7272 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

caspase-3 (E-8) is available conjugated to either TRITC (sc-7272 TRITC, 200 µg/ml) or Alexa Fluor<sup>®</sup> 405 (sc-7272 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

caspase-3 (E-8) is recommended for detection of caspase-3 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), flow cytometry (1 µg per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

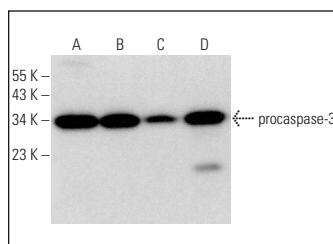
Suitable for use as control antibody for caspase-3 siRNA (h): sc-29237, caspase-3 shRNA Plasmid (h): sc-29237-SH and caspase-3 shRNA (h) Lentiviral Particles: sc-29237-V.

Molecular Weight of procaspase-3: 32 kDa.

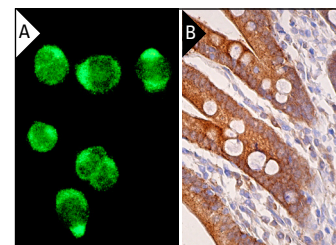
Molecular Weight of caspase-3 subunits: 11/17/20 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, SUP-T1 whole cell lysate: sc-364796 or CCRF-CEM cell lysate: sc-2225.

## DATA



caspase-3 (E-8): sc-7272. Western blot analysis of procaspase-3 expression in CCRF-CEM (A), SUP-T1 (B), HUV-EC-C (C) and NCI-H929 (D) whole cell lysates.



caspase-3 (E-8): sc-7272. Immunofluorescence staining of methanol-fixed HuT 78 cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Denning, M.F., et al. 1998. Protein kinase C $\delta$  is activated by caspase-dependent proteolysis during ultraviolet radiation-induced apoptosis of human keratinocytes. *J. Biol. Chem.* 273: 29995-30002.
- Dang, Q., et al. 2019. The  $\gamma$ -secretase inhibitor GSI-1 interacts synergistically with the proteasome inhibitor bortezomib to induce ALK<sup>+</sup> anaplastic large cell lymphoma cell apoptosis. *Cell. Signal.* 59: 76-84.
- Chen, S., et al. 2019. Introduction of exogenous wild-type p53 mediates the regulation of oncoprotein 18/stathmin signaling via nuclear factor- $\kappa$ B in non-small cell lung cancer NCI-H1299 cells. *Oncol. Rep.* 41: 2051-2059.
- Yang, F., et al. 2019. FBXW2 suppresses migration and invasion of lung cancer cells via promoting  $\beta$ -catenin ubiquitylation and degradation. *Nat. Commun.* 10: 1382.

## RESEARCH USE

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