SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-3 p17 (G-5): sc-166589

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 p17 (G-5) 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_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

caspase-3 p17 (G-5) is recommended for detection of p17 subunit and full length precursor of caspase-3 of mouse, rat and 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 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.

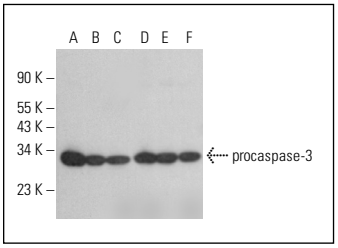
Molecular Weight of caspase-3 p17: 17 kDa.

Positive Controls: U-937 cell lysate: sc-2239, K-562 whole cell lysate: sc-2203 or Ramos cell lysate: sc-2216.

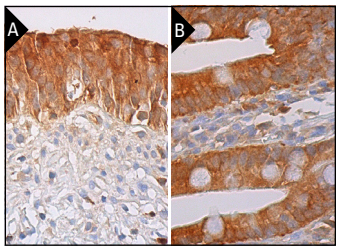
STORAGE

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

DATA



caspase-3 p17 (G-5): sc-166589. Western blot analysis of procaspase-3 expression in U266 (**A**), K-562 (**B**), U-937 (**C**), MOLT-4 (**D**), BJAB (**E**) and Ramos (**F**) whole cell lysates.



caspase-3 p17 (G-5): sc-166589. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Lin, Y., et al. 2012. The mouse Mageb18 gene encodes a ubiquitously expressed type I MAGE protein and regulates cell proliferation and apoptosis in melanoma B16-F0 cells. Biochem. J. 443: 779-788.
2. Dinh, P.X., et al. 2013. Heterogeneous nuclear ribonucleoprotein K supports vesicular stomatitis virus replication by regulating cell survival and cellular gene expression. J. Virol. 87: 10059-10069.
3. Yang, X., et al. 2018. Chaperonin-containing T-complex protein 1 subunit 8 promotes cell migration and invasion in human esophageal squamous cell carcinoma by regulating α-Actin and β-Tubulin expression. Int. J. Oncol. 52: 2021-2030.
4. Qin, C., et al. 2019. BCLAF1 critically regulates the type I interferon response and is degraded by alphaherpesvirus US3. PLoS Pathog. 15: e1007559.
5. Huang, Y., et al. 2019. Baicalin relieves inflammation stimulated by lipopolysaccharide via upregulating TUG1 in liver cells. J. Physiol. Biochem. 75: 463-473.
6. Zhang, Y., et al. 2021. Dexmedetomidine attenuates sevoflurane-induced neurocognitive impairment through α2-adrenoceptors. Mol. Med. Rep. 23: 38.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.