

caspase-9 (9CSP02): sc-81589

BACKGROUND

A unique family of cysteine proteases has been described that differs in sequence, structure and substrate specificity from any previously described protease family. This family, CED-3/caspase-1, is comprised of caspase-1, caspase-2, caspase-3, caspase-4, caspase-6, caspase-7 (also designated Mch3, ICE-LAP3 or CMH-1), caspase-9 and caspase-10. CED-3/caspase-1 family members function as key components of the apoptotic machinery and act to destroy specific target proteins which are critical to cellular longevity. Poly(ADP-ribose) polymerase plays an integral role in surveying for DNA mutations and double strand breaks. Caspase-3, caspase-7 and caspase-9, but not caspase-1, have been shown to cleave the nuclear protein PARP into an apoptotic fragment. Caspase-6, but not caspase-3, has been shown to cleave the nuclear lamins, which are critical to maintaining the integrity of the nuclear envelope and cellular morphology. Caspase-10 has been shown to activate caspase-3 and caspase-7 in response to apoptotic stimuli.

REFERENCES

- Lindahl, T., et al. 1995. Posttranslational modification of poly(ADP-ribose) polymerase induced by DNA strand breaks. *Trends Biochem. Sci.* 20: 405-411.
- Duan, H., et al. 1996. ICE-LAP3, a novel mammalian homolog of the *Caenorhabditis elegans* cell death protein CED-3 is activated during FAS- and tumor necrosis factor-induced apoptosis. *J. Biol. Chem.* 271: 1621-1625.

CHROMOSOMAL LOCATION

Genetic locus: CASP9 (human) mapping to 1p36.21.

SOURCE

caspase-9 (9CSP02) is a mouse monoclonal antibody raised against full length caspase-9 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

caspase-9 (9CSP02) is recommended for detection of caspase-9 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for caspase-9 siRNA (h): sc-29931, caspase-9 shRNA Plasmid (h): sc-29931-SH and caspase-9 shRNA (h) Lentiviral Particles: sc-29931-V.

Molecular Weight of procaspase-9: 46 kDa.

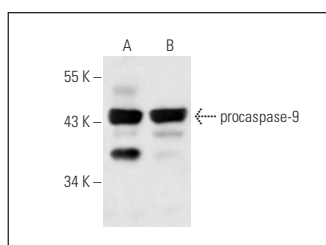
Molecular Weight of caspase-9 activated form: 35 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



caspase-9 (9CSP02): sc-81589. Western blot analysis of procaspase-9 expression in HuT 78 (A) and HeLa (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Davison, G., et al. 2016. Zinc carnosine works with bovine colostrum in truncating heavy exercise-induced increase in gut permeability in healthy volunteers. *Am. J. Clin. Nutr.* 104: 526-536.
- Liu, Y., et al. 2017. Resveratrol protects against oxidized low-density lipoprotein-induced human umbilical vein endothelial cell apoptosis via inhibition of mitochondrial-derived oxidative stress. *Mol. Med. Rep.* 15: 2457-2464.
- Cao, X., et al. 2017. miRNA-504 inhibits p53-dependent vascular smooth muscle cell apoptosis and may prevent aneurysm formation. *Mol. Med. Rep.* 16: 2570-2578.
- Wan, L., et al. 2017. Aloin promotes A549 cell apoptosis via the reactive oxygen species-mitogen activated protein kinase signaling pathway and p53 phosphorylation. *Mol. Med. Rep.* 16: 5759-5768.

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.



See **caspase-9 (96.1.23): sc-56076** for caspase-9 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.