

caspase-9 (96.1.23): sc-56076

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.

CHROMOSOMAL LOCATION

Genetic locus: CASP9 (human) mapping to 1p36.21; Casp9 (mouse) mapping to 4 E1.

SOURCE

caspase-9 (96.1.23) is a mouse monoclonal antibody raised against the prodomain of 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.

caspase-9 (96.1.23) is available conjugated to agarose (sc-56076 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56076 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56076 PE), fluorescein (sc-56076 FITC), Alexa Fluor® 488 (sc-56076 AF488), Alexa Fluor® 546 (sc-56076 AF546), Alexa Fluor® 594 (sc-56076 AF594) or Alexa Fluor® 647 (sc-56076 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56076 AF680) or Alexa Fluor® 790 (sc-56076 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

caspase-9 (96.1.23) is recommended for detection of caspase-9 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-9 siRNA (h): sc-29931, caspase-9 siRNA (m): sc-37227, caspase-9 shRNA Plasmid (h): sc-29931-SH, caspase-9 shRNA Plasmid (m): sc-37227-SH, caspase-9 shRNA (h) Lentiviral Particles: sc-29931-V and caspase-9 shRNA (m) Lentiviral Particles: sc-37227-V.

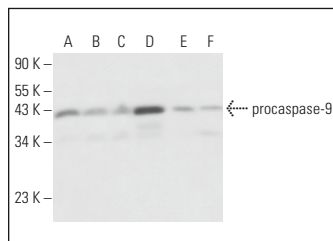
Molecular Weight of procaspase-9: 46 kDa.

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

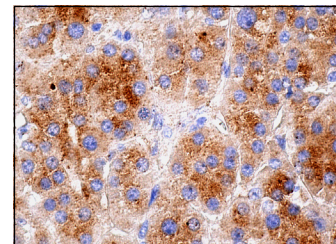
STORAGE

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

DATA



caspase-9 (96.1.23): sc-56076. Western blot analysis of procaspase-9 expression in HeLa (A), Jurkat (B), staurosporine-treated Jurkat (C), staurosporine-treated HeLa (D), UV-treated HeLa (E) and MOLT-4 (F) whole cell lysates.



caspase-9 (96.1.23): sc-56076. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Mirza, S., et al. 2010. Demethylating agent 5-aza-2-deoxycytidine enhances susceptibility of breast cancer cells to anticancer agents. *Mol. Cell. Biochem.* 342: 101-109.
- Xia, D., et al. 2011. Administration of minocycline ameliorates damage in a renal ischemia/reperfusion injury model. *Clin. Invest. Med.* 34: E55-E63.
- Lin, E., et al. 2012. Flavokawain B inhibits growth of human squamous carcinoma cells: involvement of apoptosis and cell cycle dysregulation *in vitro* and *in vivo*. *J. Nutr. Biochem.* 23: 368-378.
- Wang, W., et al. 2013. Vitamin D analog EB1089 induces apoptosis in a subpopulation of SGC-7901 gastric cancer cells through a mitochondrial-dependent apoptotic pathway. *Nutr. Cancer* 65: 1067-1075.
- Kuma, A., et al. 2014. Role of WNT10A-expressing kidney fibroblasts in acute interstitial nephritis. *PLoS ONE* 9: e103240.
- Yang, J., et al. 2015. RP105 protects against apoptosis in ischemia/reperfusion-induced myocardial damage in rats by suppressing TLR4-mediated signaling pathways. *Cell. Physiol. Biochem.* 36: 2137-2148.
- Wang, L., et al. 2015. Sulforaphane inhibits thyroid cancer cell growth and invasiveness through the reactive oxygen species-dependent pathway. *Oncotarget* 6: 25917-25931.
- Samie, N., et al. 2016. Mechanism of action of the novel nickel(II) complex in simultaneous reactivation of the apoptotic signaling networks against human colon cancer cells. *Front. Pharmacol.* 6: 313.
- Li, G.Q., et al. 2016. Suppression of BRD4 inhibits human hepatocellular carcinoma by repressing MYC and enhancing BIM expression. *Oncotarget* 7: 2462-2474.

RESEARCH USE

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

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