

caspase-9 (4E31): sc-70506

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 (4E31) 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.

STORAGE

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

APPLICATIONS

caspase-9 (4E31) 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.

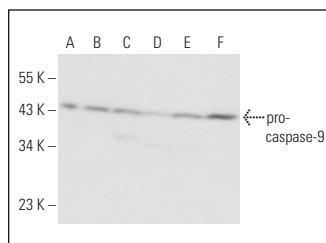
Molecular Weight of caspase-9 activated form: 35 kDa.

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

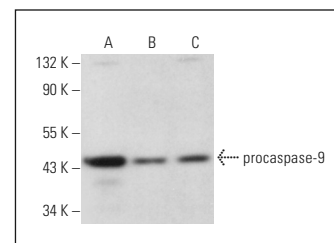
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



caspase-9 (4E31): sc-70506. Western blot analysis of procaspase-9 expression in HeLa (A), Jurkat (B), HuT 78 (C), MOLT-4 (D), UV-treated HeLa (E) and staurosporine-treated HeLa (F) whole cell lysates.




caspase-9 (4E31): sc-70506. Western blot analysis of procaspase-9 expression in HeLa (A), K-562 (B) and U-87 MG (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Yin, X.H., et al. 2013. Neuroprotection of S-nitrosoglutathione against ischemic injury by down-regulating Fas S-nitrosylation and downstream signaling. *Neuroscience* 248: 290-298.
- Zhang, D., et al. 2016. Procaspace-9 induces its cleavage by transnitrosylating XIAP via the Thioredoxin system during cerebral ischemia-reperfusion in rats. *Sci. Rep.* 6: 24203.
- Yin, X.H., et al. 2016. PDZ1 inhibitor peptide protects neurons against ischemia via inhibiting GluK2-PSD-95-module-mediated Fas signaling pathway. *Brain Res.* 1637: 64-70.
- Yin, X.H., et al. 2017. Geldanamycin inhibits Fas signaling pathway and protects neurons against ischemia. *Neurosci. Res.* 124: 33-39.
- Rashidbaghan, A., et al. 2021. The agglutinin of common nettle (*Urtica dioica L.*) plant effects on gene expression related to apoptosis of human acute myeloid leukemia cell line. *Biochem. Genet.* 59: 1049-1064.

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.