

# caspase-7 (51): sc-135858

## 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

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2. Cohen, G.M. 1997. Caspases: the executioners of apoptosis. *Biochem. J.* 326: 1-16.
3. Chandler, J.M., et al. 1998. Different subcellular distribution of caspase-3 and caspase-7 following FAS-induced apoptosis in mouse liver. *J. Biol. Chem.* 273: 10815-10818.
4. Marcelli, M., et al. 1999. Signaling pathway activated during apoptosis of the prostate cancer cell line LNCaP: overexpression of caspase-7 as a new gene therapy strategy for prostate cancer. *Cancer Res.* 59: 382-390.
5. Germain, M., et al. 1999. Cleavage of automodified poly(ADP-ribose) polymerase during apoptosis. Evidence for involvement of caspase-7. *J. Biol. Chem.* 274: 28379-28384.
6. Araya, R., et al. 2002. Yeast two-hybrid screening using constitutive-active caspase-7 as bait in the identification of PA28 $\gamma$  as an effector caspase substrate. *Cell Death Differ.* 9: 322-328.
7. Soung, Y.H., et al. 2003. Inactivating mutations of caspase-7 gene in human cancers. *Oncogene* 22: 8048-8052.
8. Korfali, N., et al. 2004. Caspase-7 gene disruption reveals an involvement of the enzyme during the early stages of apoptosis. *J. Biol. Chem.* 279: 1030-1039.

## CHROMOSOMAL LOCATION

Genetic locus: CASP7 (human) mapping to 10q25.3.

## SOURCE

caspase-7 (51) is a mouse monoclonal antibody raised against amino acids 4-126 of caspase-7 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>2b</sub> in 500  $\mu$ l of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

## APPLICATIONS

caspase-7 (51) is recommended for detection of p20 subunit and full length caspase-7 of human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for caspase-7 siRNA (h): sc-29929, caspase-7 shRNA Plasmid (h): sc-29929-SH and caspase-7 shRNA (h) Lentiviral Particles: sc-29929-V.

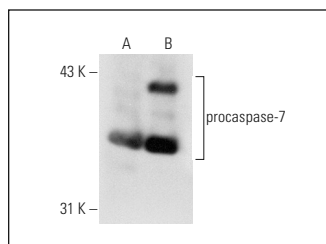
Molecular Weight of procaspase-7 splice variants: 28-38 kDa.

Molecular Weight of caspase-7 p20 subunit: 20 kDa.

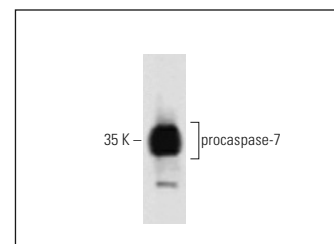
Molecular Weight of caspase-7 p10 subunit: 10 kDa.

Positive Controls: caspase-7 (h3): 293T Lysate: sc-177030, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

## DATA



caspase-7 (51): sc-135858. Western blot analysis of procaspase-7 expression in non-transfected: sc-117752 (A) and human caspase-7 transfected: sc-177030 (B) 293T whole cell lysates.



caspase-7 (51): sc-135858. Western blot analysis of procaspase-7 expression in Hep G2 whole cell lysate.

## 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.