SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-7 (C-18): sc-6138

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Tiso, N., et al. 1996. Chromosomal localization of the human genes, CPP32, MCH2, MCH3, and ICH1, involved in cellular apoptosis. Biochem. Biophys. Res. Commun. 225: 983-989.
2. Cohen, G.M. 1997. Caspases: the executioners of apoptosis. Biochem. J. 326: 1-16.

SOURCE

caspase-7 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.2% gelatin.

Blocking peptide available for competition studies, sc-6138 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-7 (C-18) is recommended for detection of caspase-7 and caspase-3 and, to a lesser extent, caspase-6 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, 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).

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

Molecular Weight of caspase-7 p20/p20 subunit: 20/10 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or caspase-7 (h): 293T Lysate: sc-112228.

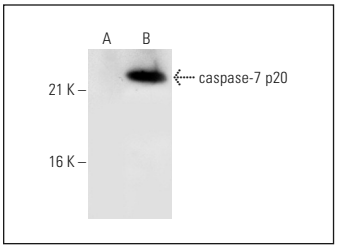
RESEARCH USE

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

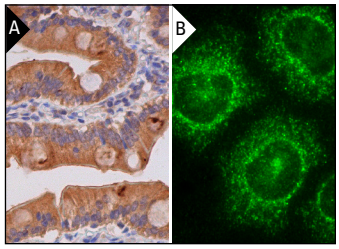
STORAGE

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

DATA



caspase-7 (C-18): sc-6138. Western blot analysis of caspase-7 expression in non-transfected: sc-110760 (**A**) and human caspase-7 transfected: sc-112228 (**B**) 293 whole cell lysates.



caspase-7 (C-18): sc-6138. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Hakem, R., et al. 1998. Differential requirement for caspase 9 in apoptotic pathways *in vivo*. Cell 94: 339-352.
2. Ozawa, K., et al. 1999. 150-kDa oxygen-regulated protein (ORP150) suppresses hypoxia-induced apoptotic cell death. J. Biol. Chem. 274: 6397-6404.
3. Dong, Z., et al. 2000. Serine protease inhibitors suppress cytochrome c-mediated caspase-9 activation and apoptosis during hypoxia-reoxygenation. Biochem. J. 347: 669-677.
4. Pijpers, A.H., et al. 2001. Verocytotoxin-induced apoptosis of human microvascular endothelial cells. J. Am. Soc. Nephrol. 12: 767-778.
5. Luciano, F., et al. 2003. The p54 cleaved form of the tyrosine kinase Lyn generated by caspases during Bcr-induced cell death in B lymphoma acts as a negative regulator of apoptosis. FASEB J. 17: 711-713.
6. Hayashi, N., et al. 2006. Relationship between SUMO-1 modification of caspase-7 and its nuclear localization in human neuronal cells. Neurosci. Lett. 397: 5-9.
7. West, T., et al. 2006. Caspase-3 deficiency during development increases vulnerability to hypoxic-ischemic injury through caspase-3-independent pathways. Neurobiol. Dis. 22: 523-537.
8. Hsieh, S.C., et al. 2013. α-Mangostin induces mitochondrial dependent apoptosis in human hepatoma SK-Hep-1 cells through inhibition of p38 MAPK pathway. Apoptosis 18: 1548-1560.