

caspase-7 (10-1-62): sc-56063

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.
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.

CHROMOSOMAL LOCATION

Genetic locus: CASP7 (human) mapping to 10q25.3; Casp7 (mouse) mapping to 19 D2.

SOURCE

caspase-7 (10-1-62) is a mouse monoclonal antibody raised against full length caspase-7 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-7 (10-1-62) is available conjugated to agarose (sc-56063 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56063 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56063 PE), fluorescein (sc-56063 FITC), Alexa Fluor® 488 (sc-56063 AF488), Alexa Fluor® 546 (sc-56063 AF546), Alexa Fluor® 594 (sc-56063 AF594) or Alexa Fluor® 647 (sc-56063 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56063 AF680) or Alexa Fluor® 790 (sc-56063 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

caspase-7 (10-1-62) is recommended for detection of caspase-7, recombinant caspase-7 as well as full length procaspase-7 and processed enzyme 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).

Suitable for use as control antibody for caspase-7 siRNA (h): sc-29929, caspase-7 siRNA (m): sc-29928, caspase-7 shRNA Plasmid (h): sc-29929-SH, caspase-7 shRNA Plasmid (m): sc-29928-SH, caspase-7 shRNA (h) Lentiviral Particles: sc-29929-V and caspase-7 shRNA (m) Lentiviral Particles: sc-29928-V.

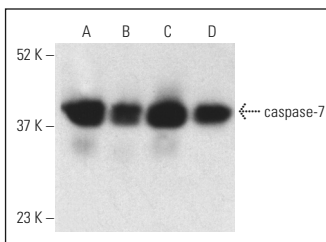
Molecular Weight of procaspase-7 splice variants: 28-38 kDa.

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

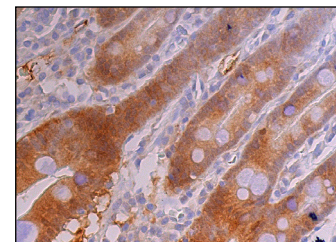
Molecular Weight of caspase-7 p10 subunit: 10 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, MOLT-4 cell lysate: sc-2233 or HeLa whole cell lysate: sc-2200.

DATA



caspase-7 (10-1-62) HRP: sc-56063 HRP. Direct western blot analysis of caspase-7 expression in CCRF-CEM (A), HeLa (B), MOLT-4 (C) and PC-12 (D) whole cell lysates.



caspase-7 (10-1-62): sc-56063. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Hoffman-Goetz, L., et al. 2009. Voluntary exercise training in mice increases the expression of antioxidant enzymes and decreases the expression of TNF-α in intestinal lymphocytes. *Brain Behav. Immun.* 23: 498-506.
2. Ryabaya, O., et al. 2018. Inhibition of endoplasmic reticulum stress-induced autophagy sensitizes melanoma cells to temozolomide treatment. *Oncol. Rep.* 40: 385-394.
3. Di Meco, A. and Praticò, D. 2019. Early-life exposure to high-fat diet influences brain health in aging mice. *Aging Cell* 18: e13040.
4. Shin, J.H., et al. 2020. Therapeutic efficacy of human embryonic stem cell-derived multipotent stem/stromal cells in diabetic detrusor underactivity: a preclinical study. *J. Clin. Med.* 9: 2853.

RESEARCH USE

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