SANTA CRUZ BIOTECHNOLOGY, INC.

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

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.
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 IgG_1 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.

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.

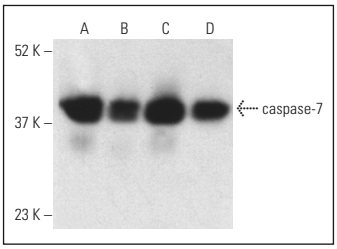
Molecular Weight of procaspase-7 splice variants: 28-38 kDa.

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

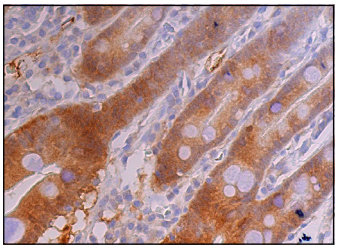
Molecular Weight of caspase-7 p10 subunit: 10 kDa.

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. Enríquez-Flores, S., et al. 2022. Naturally occurring deamidated triosephosphate isomerase is a promising target for cell-selective therapy in cancer. Sci. Rep. 12: 4028.
3. Wu, W., et al. 2023. Phase separation is required for PML nuclear body biogenesis and function. FASEB J. 37: e22986.
4. Bai, C., et al. 2024. Circ_0006949 as a potential non-invasive diagnosis biomarker promotes the proliferation of NSCLC cells via miR-4673/GLUL axis. Biochim. Biophys. Acta Mol. Basis Dis. 1870: 167234.

RESEARCH USE

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