SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-7 (10.1.60): sc-81654

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.

CHROMOSOMAL LOCATION

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

SOURCE

caspase-7 (10.1.60) is a mouse monoclonal antibody raised against full-length recombinant 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.

APPLICATIONS

caspase-7 (10.1.60) is recommended for detection of caspase-7 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-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: MOLT-4 cell lysate: sc-2233, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

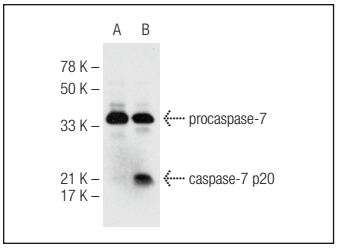
STORAGE

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

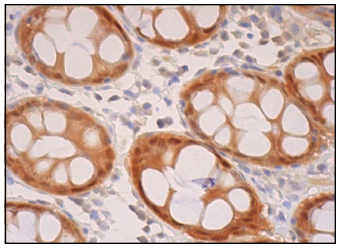
RESEARCH USE

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

DATA



caspase-7 (10.1.60): sc-81654. Western blot analysis of caspase-7 expression in untreated (**A**) and Staurosporine (sc-3510) treated (**B**) HeLa whole cell lysates. Note cleaved caspase-7 expression in lane **B**.



caspase-7 (10.1.60): sc-81654. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Jagadish, N., et al. 2016. Sperm-associated antigen 9 (SPAG9) promotes the survival and tumor growth of triple-negative breast cancer cells. Tumour Biol. 37: 13101-13110.
2. Kumar, V., et al. 2017. Role of A-kinase anchor protein (AKAP4) in growth and survival of ovarian cancer cells. Oncotarget 8: 53124-53136.
3. Zhao, X., et al. 2017. Physapubescin B inhibits tumorgenesis and circumvents taxol resistance of ovarian cancer cells through Stat3 signaling. Oncotarget 8: 70130-70141.
4. Ferino, A., et al. 2020. Photodynamic therapy for Ras-driven cancers: targeting G-quadruplex RNA structures with bifunctional alkyl-modified porphyrins. J. Med. Chem. 63: 1245-1260.
5. Yi, J., et al. 2020. Protective effects of glucose-related protein 78 and 94 on cisplatin-mediated ototoxicity. Antioxidants 9: 686.
6. Park, K.C., et al. 2023. PMCA inhibition reverses drug resistance in clinically refractory cancer patient-derived models. BMC Med. 21: 38.
7. Solier, S., et al. 2023. Caspase inhibition modulates monocyte-derived macrophage polarization in damaged tissues. Int. J. Mol. Sci. 24: 4151.
8. Moriizumi, H., et al. 2023. Caspase 3-specific cleavage of MEK1 suppresses ERK signaling and sensitizes cells to stress-induced apoptosis. FEBS Open Bio 13: 684-700.
9. Kang, B.C., et al. 2023. Dexamethasone treatment of murine auditory hair cells and cochlear explants attenuates tumor necrosis factor-α-initiated apoptotic damage. PLoS ONE 18: e0291780.
10. Lee, G.E., et al. 2024. Dysregulated CREB3 cleavage at the nuclear membrane induces karyoptosis-mediated cell death. Exp. Mol. Med. 56: 686-699.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.