SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-8 p10 (C502S): sc-56071

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Initiator caspases, which include caspase-8, activate effector caspases by cleaving inactive forms of effector caspases. In the activation cascade responsible for apoptosis induced by TNFRSF1A and mediated by TNFRSF6/FAS, caspase-8 is the most upstream protease. Caspase-8 binds to adaptor molecule FADD, forming an aggregate referred to as death-inducing signaling complex (DISC), which activates caspase-8. The actived protein is released from the complex and further activates downstream apoptotic proteases. Caspase-8, which is a heterodimer consisting of two subunits (p18 and p10), is widely expressed, but is detected at highest levels in peripheral blood leukocytes (PBLs), thymus, liver and spleen. Defects in CASP8, the gene encoding for caspase-8, may cause CASP8D (caspase-8 deficiency disorder), which is characterized by splenomegaly and CD95-induced apoptosis of PBLs, may lead to immunodeficiency due to defects in T lymphocyte, NK cell and B lymphocyte activation.

REFERENCES

1. Nagata, S., et al. 1995. The FAS death factor. Science 267: 1449-1456.
2. Cleveland, J.L., et al. 1995. Contenders in FASL/TNF death signaling. Cell 81: 479-482.
3. Fernandes-Alnemri, T., et al. 1996. *In vitro* activation of CPP32 and Mch3 by Mch4, a novel human apoptotic cysteine protease containing two FADD-like domains. Proc. Natl. Acad. Sci. USA 93: 7464-7469.
4. Medema, J.P., et al. 1997. FLICE is activated by association with the CD95 death-inducing signaling complex (DISC). EMBO J. 16: 2794-2804.
5. Srinivasan, A. et al. 1998. Bcl-x_L functions downstream of caspase-8 to inhibit FAS- and tumor necrosis factor receptor 1-induced apoptosis of MCF7 breast carcinoma cells. J. Biol. Chem. 273: 4523-4529.
6. Rytomaa, M. et al. 1999. Involvement of FADD and caspase-8 signalling in detachment-induced apoptosis. Curr. Biol. 9:1043-1046.
7. Wesselborg, S., et al. 1999. Anticancer drugs induce caspase-8/FLICE activation and apoptosis in the absence of CD95 receptor/ligand interaction. Blood 93: 3053-3063.
8. Watt, W., et al. 1999. The atomic-resolution structure of human caspase-8, a key activator of apoptosis. Structure 7: 1135-1143.
9. Jones, D.T., et al. 2001. Caspase 8 activation independent of FAS (CD95/APO-1) signaling may mediate killing of B-chronic lymphocytic leukemia cells by cytotoxic drugs or gamma radiation. Blood 98: 2800-2807.

CHROMOSOMAL LOCATION

Genetic locus: CASP8 (human) mapping to 2q33.1

SOURCE

caspase-8 p10 (C502S) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to the N-terminus of caspase-8 p10 fragment of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

caspase-8 p10 (C502S) is recommended for detection of p10 subunit of caspase-8 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; non cross-reactive with precursor caspase-8.

Suitable for use as control antibody for caspase-8 siRNA (h): sc-29930, caspase-8 shRNA Plasmid (h): sc-29930-SH and caspase-8 shRNA (h) Lentiviral Particles: sc-29930-V.

Molecular Weight of caspase-8 precursor: 55 kDa.

Molecular Weight of caspase-8 p18 subunit: 18 kDa.

Molecular Weight of caspase-8 p10 subunit: 10 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HL-60 whole cell lysate: sc-2209 or SW480 cell lysate: sc-2219.

SELECT PRODUCT CITATIONS

1. Xiong, J., et al. 2018. Antibody-nanoparticle conjugate constructed with trastuzumab and nanoparticle albumin-bound paclitaxel for targeted therapy of human epidermal growth factor receptor 2-positive gastric cancer. Oncol. Rep. 39: 1396-1404.
2. Zhang, C., et al. 2019. Induction of apoptosis and erythroid differentiation of human chronic myelogenous leukemia K562 cells by low concentrations of lidamycin. Oncol. Rep. 41: 475-482.

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.

PROTOCOLS

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