SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-8 (E-20): sc-6133

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 FAS-L/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.

SOURCE

caspase-8 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of caspase-8 precursor 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-6133 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA)

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 or our catalog for detailed protocols and support products.

APPLICATIONS

caspase-8 (E-20) is recommended for detection of C-terminal prodomain of caspase-8, MACHα2, MACHβ1, MACHβ3 and MACHβ4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 caspase-8 precursor: 55 kDa.

Molecular Weight of caspase-8 p18/p10 subunits: 18/10 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Tseng, C., et al. 2002. Microtubule damaging agents induce apoptosis in HL-60 cells and G_2/M cell cycle arrest in HT 29 cells. Toxicology 175: 123-142.
2. Balasenthil, S., et al. 2003. Altered cytokeratin expression during chemoprevention of hamster buccal pouch carcinogenesis by S-allylcysteine. Pol. J. Pharmacol. 55: 793-798.
3. Velmurugan, B., et al. 2005. Combination of S-allylcysteine and lycopene induces apoptosis by modulating Bcl-2, Bax, Bim and caspases during experimental gastric carcinogenesis. Eur. J. Cancer Prev. 14: 387-393.
4. Subapriya, R., et al. 2005. Ethanolic neem *(Azadirachta indica)* leaf extract induces apoptosis in the hamster buccal pouch carcinogenesis model by modulation of Bcl-2, Bim, caspase-8 and caspase-3. Asian Pac. J. Cancer Prev. 6: 515-520.
5. Kumaraguruparan, R., et al. 2006. Of humans and canines: a comparative evaluation of heat shock and apoptosis-associated proteins in mammary tumors. Clin. Chim. Acta 365: 168-176.
6. Shen, J., et al. 2006. Identification and validation of differences in protein levels in normal, premalignant, and malignant lung cells and tissues using high-throughput Western Array and immunohistochemistry. Cancer Res. 66: 11194-11206.
7. Wu, Y., et al. 2013. A novel colon cancer gene therapy using rAAV-mediated expression of human shRNA-FHL2. Int. J. Oncol. 43: 1618-1626.