SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-8 (4H46): sc-70503

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. Cleveland, J.L., et al. 1995. Contenders in FAS-L/TNF death signaling. Cell 81: 479-482.
2. Nagata, S., et al. 1995. The FAS death factor. Science 267: 1449-1456.
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 TNF-R1-induced apoptosis of MCF7 breast carcinoma cells. J. Biol. Chem. 273: 4523-4529.
6. 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.
7. Rytomaa, M., et al. 1999. Involvement of FADD and caspase-8 signalling in detachment-induced apoptosis. Curr. Biol. 9: 1043-1046.

CHROMOSOMAL LOCATION

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

SOURCE

caspase-8 (4H46) is a mouse monoclonal antibody raised against amino acids 217-222 of caspase-8 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.

STORAGE

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

APPLICATIONS

caspase-8 (4H46) is recommended for detection 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)].

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.

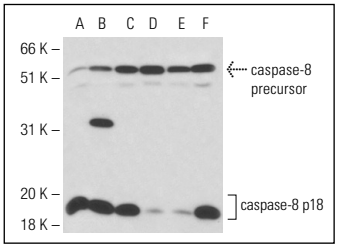
Molecular Weight of caspase-8 p10 subunit: 10 kDa.

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

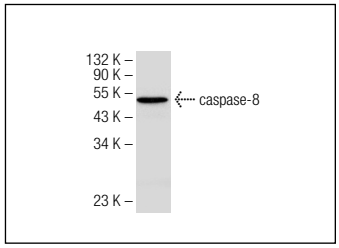
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



caspase-8 (4H46): sc-70503. Western blot analysis of caspase-8 expression in THP-1 (**A**), HL-60 (**B**), SW480 (**C**), K-562 (**D**), HeLa (**E**) and AML-193 (**F**) whole cell lysates.



caspase-8 (4H46): sc-70503. Western blot analysis of caspase-8 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Filomeni, G., et al. 2010. Carcinoma cells activate AMP-activated protein kinase-dependent autophagy as survival response to kaempferol-mediated energetic impairment. Autophagy 6: 202-216.
2. Edelmann, B., et al. 2011. Caspase-8 and caspase-7 sequentially mediate proteolytic activation of acid sphingomyelinase in TNF-R1 receptosomes. EMBO J. 30: 379-394.

RESEARCH USE

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