SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-10 (WW-H4): sc-134299

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, cleave the nuclear protein PARP into an apoptotic fragment. Caspase-6, but not caspase-3, cleaves the nuclear lamins which are critical to maintaining the integrity of the nuclear envelope and cellular morphology. caspase-10 activates caspase-3 and caspase-7 in response to apoptotic stimuli.

REFERENCES

1. Lindahl, T., et al. 1995. Post-translational modification of poly (ADP-ribose) polymerase induced by DNA strand breaks. Trends Biochem. Sci. 20: 405-411.
2. Duan, H., et al. 1996. ICE-LAP3, a novel mammalian homologue of the *Caenorhabditis elegans* cell death protein Ced-3 is activated during FAS- and tumor necrosis factor-induced apoptosis. J. Biol. Chem. 271: 1621-1625.
3. Fernandes-Alnemri, T.F., 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. Duan, H., et al. 1996. ICE-LAP6, a novel member of the ICE/Ced-3 gene family, is activated by the cytotoxic T cell protease granzyme B. J. Biol. Chem. 271: 16720-16724.
5. Simbulan-Rosenthal, C.M., et al. 1996. The expression of poly (ADP-ribose) polymerase during differentiation-linked DNA replication complex. Biochemistry 35: 11622-11633.
6. Takahashi, A., et al. 1996. Cleavage of lamin A by Mch2 a but not CPP32: multiple interleukin 1 β-converting enzyme-related proteases with distinct substrate recognition properties are active in apoptosis. Proc. Natl. Acad. Sci. 93: 8395-8400.

CHROMOSOMAL LOCATION

Genetic locus: CASP10 (human) mapping to 2q33.1.

SOURCE

caspase-10 (WW-H4) is a mouse monoclonal antibody raised against recombinant caspase-10 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

caspase-10 (WW-H4) is recommended for detection of caspase-10 precursor of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross reactive with caspase-10 subunits.

Suitable for use as control antibody for caspase-10 siRNA (h): sc-29923, caspase-10 shRNA Plasmid (h): sc-29923-SH and caspase-10 shRNA (h) Lentiviral Particles: sc-29923-V.

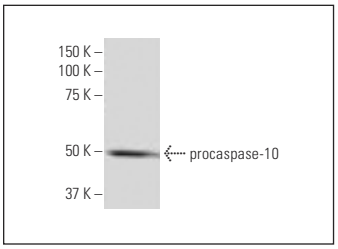
Molecular Weight of caspase-10: 58 kDa.

Positive Controls: human liver extract: sc-363766, Jurkat whole cell lysate: sc-2204 or U-2 OS cell lysate: sc-2295.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-10 (WW-H4): sc-134299. Western blot analysis of procaspase-10 expression in U-2 OS whole cell lysate.

SELECT PRODUCT CITATIONS

1. Song, X., et al. 2016. Cancer cell-derived exosomes induce mitogen-activated protein kinase-dependent monocyte survival by transport of functional receptor tyrosine kinases. J. Biol. Chem. 291: 8453-8464.
2. Li, X., et al. 2018. Targeting cysteine-rich angiogenic inducer-61 by antibody immunotherapy suppresses growth and migration of non-small cell lung cancer. Exp. Ther. Med. 16: 730-738.

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.