SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-14 p10 (L-20): sc-9643

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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, termed Ced-3/caspase-1, is composed of caspase-1, caspase-2, caspase-3, caspase-4, caspase-6 and caspase-7 (also designated Mch3, ICE-LAP3 or CMH-1), caspase-9, caspase-10, and caspase-14. 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. 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-14, also designated MICE (for mini-ICE), is highly expressed in embryonic tissues but appears to be absent from adult tissues. Procaspase-14 can be processed *in vitro* by caspase-8 and caspase-10 but not by other caspases.

REFERENCES

1. Duan, H., et al. 1996. ICE-LAP3, a novel mammalian homologue of the *Caenor-habditis elegans* cell death protein Ced-3 is activated during FAS- and tumor necrosis factor-induced apoptosis. J. Biol. Chem. 271: 1621-1625.
2. 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.
3. 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.
4. Casciola-Rosen, L., et al. 1996. Apopain/CPP32 cleaves proteins that are essential for cellular repair: a fundamental principle of apoptotic death. J. Exp. Med. 183: 1957-1964.
5. Hu, S., et al. 1998. Caspase-14 is a novel developmentally regulated protease. J. Biol. Chem. 273: 29648-29653.
6. Ahmad, M., et al. 1998. Identification and characterization of murine caspase-14, a new member of the caspase family. Cancer Res. 58: 5201-5205.
7. Van de Craen, M., et al. 1998. Identification of a new caspase homologue: caspase-14. Cell Death Differ. 5: 838-846.

CHROMOSOMAL LOCATION

Genetic locus: Casp14 (mouse) mapping to 10 C1.

SOURCE

caspase-14 p10 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of caspase-14 p10 of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9643 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-14 p10 (L-20) is recommended for detection of caspase-14 precursor and p10 subunit of mouse and rat 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).

Suitable for use as control antibody for caspase-14 siRNA (m): sc-37365, caspase-14 shRNA Plasmid (m): sc-37365-SH and caspase-14 shRNA (m) Lentiviral Particles: sc-37365-V.

Molecular Weight of procaspase-14: 30 kDa.

Molecular Weight of caspase-14 subunits: 18/11 kDa.

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. West, T., et al. 2006. Caspase-3 deficiency during development increases vulnerability to hypoxic-ischemic injury through caspase-3-independent pathways. Neurobiol. Dis. 22: 523-537.

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.