SANTA CRUZ BIOTECHNOLOGY, INC.

caspase-12 (A-14): sc-12395

SANTA CRUZ BIOTECHNOLOGY

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, caspase-14 and caspase-5/caspase-12. 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-5 (also designated TY or ICErelIII) can cleave its own precursor, an activity that requires the cysteine 245 residue. The mouse homolog of caspase-5 is designated caspase-12. Frameshift mutations in caspase-5 have been identified in MMP tumors of the endometrium, colon and stomach, indicating that caspase-5 may be a new target gene in the microsatellite mutator pathway for cancer.

REFERENCES

1. Munday, N.A., et al. 1995. Molecular cloning and pro-apoptotic activity of ICErelII and ICErelIII, members of the ICE/CED-3 family of cysteine proteases. J. Biol. Chem. 270: 15870-15876.
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. Faucheu, C., et al. 1996. Identification of a cysteine protease closely related to interleukin-1 beta-converting enzyme. Eur. J. Biochem. 236: 207-213.
6. Van de Craen, M., et al. 1997. Characterization of seven murine caspase family members. FEBS Letts. 403: 61-69.
7. Schwartz, S. Jr., et al. 1999. Frameshift mutations at mononucleotide repeats in caspase-5 and other target genes in endometrial and gastrointestinal cancer of the microsatellite mutator phenotype. Cancer Res. 59: 2995-3002.

CHROMOSOMAL LOCATION

Genetic locus: Casp12 (mouse) mapping to 9 A1.

SOURCE

caspase-12 (A-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of caspase-12 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-12395 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caspase-12 (A-14) is recommended for detection of caspase-12 of mouse and rat 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)], 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-12 siRNA (m): sc-29924, caspase-12 siRNA (r): sc-156117, caspase-12 shRNA Plasmid (m): sc-29924-SH, caspase-12 shRNA Plasmid (r): sc-156117-SH, caspase-12 shRNA (m) Lentiviral Particles: sc-29924-V and caspase-12 shRNA (r) Lentiviral Particles: sc-156117-V.

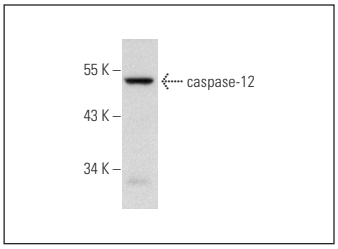
Molecular Weight of caspase-12: 50 kDa.

Positive Controls: BC_3H1 cell lysate: sc-2299 or NIH/3T3 + UV cell lysate: sc-3804.

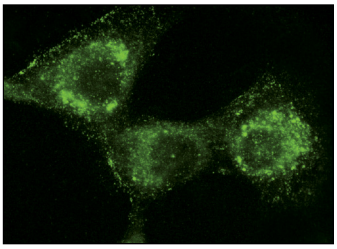
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



caspase-12 (A-14): sc-12395. Western blot analysis of caspase-12 expression in UV treated NIH/3T3 whole cell lysate.



caspase-12 (A-14): sc-12395. Immunofluorescence staining of methanol-fixed BC_3H1 cells showing cytoplasmic localization.

RESEARCH USE

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