SANTA CRUZ BIOTECHNOLOGY, INC.

$ICAD_L$ (M-19): sc-8365

BACKGROUND

The CED/ICE family of cysteine proteases plays a pivotal role in mediating apoptosis through the proteolysis of specific targets. Among the targets are poly (ADP-ribose) polymerase (PARP), gelsolin, DFF-45/ICAD and the nuclear lamins. PARP is a 112 kDa nuclear protein that is specifically cleaved by CPP32 and Mch2, but not by ICE, into a signature 85 kDa apoptotic fragment. Gelsolin is cleaved by CPP32 to an active form that severs actin filaments in a Ca++-independent manner. In addition to binding actin, gelsolin can form complexes with fibronectin, which may be important for localizing gelsolin to inflammatory sites. DFF-45/ICAD, the 45 kDa subunit of DNA fragmentation factor, is cleaved by CPP32 to generate an active factor that induces DNA fragmentation. The 70 kDa nuclear Lamin A is cleaved by Mch2, but not CPP32. Nuclear Lamin B is fragmented as a consequence of apoptosis by an unidentified member of the ICE family.

REFERENCES

1. Lind, S.E., et al. 1984. Human plasma gelsolin binds to fibronectin. J. Biol. Chem. 259: 13262-13266.
2. Fernandes-Alnemri, T., et al. 1995. Mch3, a novel human apoptotic cysteine protease highly related to CPP32. Cancer Res. 55: 6045-6052.
3. Takahashi, A., et al. 1996. Cleavage of lamin A by Mch2 a but not CPP32: multiple interleukin 1 b-converting enzyme-related proteases with distinct substrate recognition properties are active in apoptosis. Proc. Natl. Acad. Sci. USA 93: 8395-8400.
4. Rao, L., et al. 1996. Lamin proteolysis facilitates nuclear events during apoptosis. J. Cell Biol. 135: 1441-1455.
5. Salvesen, G.S., et al. 1997. Caspases: intracellular signaling by proteolysis. Cell 91: 443-446.
6. Kothakota, S., et al. 1997. Caspase-3-generated fragment of gelsolin: effector of morphological change in apoptosis. Science 278: 294-298.
7. Liu, X., et al. 1997. DFF, a heterodimeric protein that functions downstream of caspase-3 to trigger DNA fragmentation during apoptosis. Cell 89: 175-184.

SOURCE

$ICAD_L$ (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ICAD of mouse origin.

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-8365 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.

APPLICATIONS

$ICAD_L$ (M-19) is recommended for detection of $ICAD_L$ 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); non cross-reactive with $ICAD_S$.

Suitable for use as control antibody for ICAD siRNA (m): sc-35625.

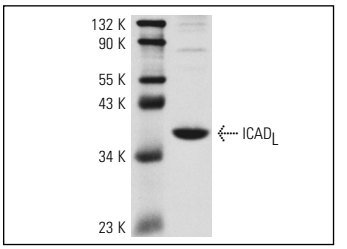
Molecular Weight of $ICAD_L$: 40 kDa.

Positive Controls: WR19L cell lysate: sc-3805.

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



$ICAD_L$ (M-19): sc-8365. Western blot analysis of $ICAD_L$ expression in WR19L whole cell lysate.

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.

SELECT PRODUCT CITATIONS

1. Yuste, V. J., et al. 2001. The Absence of Oligonucleosomal DNA Fragmentation during Apoptosis of IMR-5 Neuroblastoma Cells. J. Biol. Chem. 276: 22323-22331.
2. Larmonier, N., et al. 2002. An atypical caspase-independent death pathway for an immunogenic cancer cell line. Oncogene 21: 6091-6100.