SANTA CRUZ BIOTECHNOLOGY, INC.

$ICAD_L$ (C-4): sc-376044

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 nuclear protein that is specifically cleaved by CPP32 and Mch2, but not by ICE, into a signature apoptotic fragment. Gelsolin is cleaved by CPP32 to an active form that severs actin filaments in a Ca^{2+}-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 subunit of DNA fragmentation factor, is cleaved by CPP32 to generate an active factor that induces DNA fragmentation. The 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 α but not CPP32: multiple interleukin 1 β-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.

CHROMOSOMAL LOCATION

Genetic locus: DFFA (human) mapping to 1p36.22; Dffa (mouse) mapping to 4 E2.

SOURCE

$ICAD_L$ (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 303-331 at the C-terminus of ICAD of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

$ICAD_L$ (C-4) is available conjugated to agarose (sc-376044 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376044 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376044 PE), fluorescein (sc-376044 FITC), Alexa Fluor® 488 (sc-376044 AF488), Alexa Fluor® 546 (sc-376044 AF546), Alexa Fluor® 594 (sc-376044 AF594) or Alexa Fluor® 647 (sc-376044 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376044 AF680) or Alexa Fluor® 790 (sc-376044 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376044 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

$ICAD_L$ (C-4) is recommended for detection of $ICAD_L$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 ICAD siRNA (h): sc-35624, ICAD siRNA (m): sc-35625, ICAD shRNA Plasmid (h): sc-35624-SH, ICAD shRNA Plasmid (m): sc-35625-SH, ICAD shRNA (h) Lentiviral Particles: sc-35624-V and ICAD shRNA (m) Lentiviral Particles: sc-35625-V.

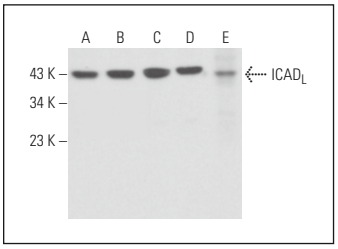
Molecular Weight of $ICAD_L$: 40 kDa.

Positive Controls: A-10 cell lysate: sc-3806, Neuro-2A whole cell lysate: sc-364185 or Jurkat whole cell lysate: sc-2204.

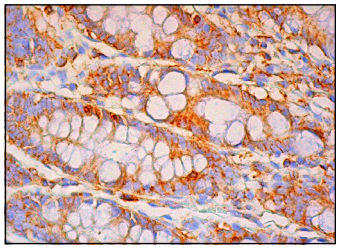
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



$ICAD_L$ (C-4): sc-376044. Western blot analysis of $ICAD_L$ expression in HeLa (**A**), Jurkat (**B**), A-10 (**C**) and Neuro-2A (**D**) whole cell lysates and mouse brain tissue extract (**E**).



$ICAD_L$ (C-4): sc-376044. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

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.