SANTA CRUZ BIOTECHNOLOGY, INC.

ICAD (C-19): sc-6866

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.

CHROMOSOMAL LOCATION

Genetic locus: DFFA (human) mapping to 1p36.22.

SOURCE

ICAD (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ICAD of human 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-6866 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ICAD (C-19) is recommended for detection of ICAD 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)], 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 shRNA Plasmid (h): sc-35624-SH and ICAD shRNA (h) Lentiviral Particles: sc-35624-V.

Molecular Weight of DFF-45 splice variant: 45 kDa.

Molecular Weight of DFF-35 splice variant: 35 kDa.

Positve Controls: U-937 cell lysate: sc-2239, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

RESEARCH USE

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

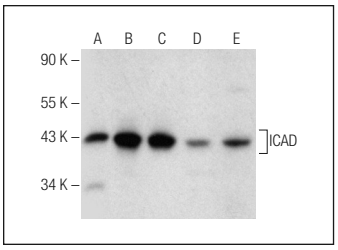
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

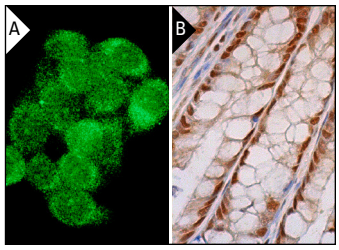
STORAGE

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

DATA



ICAD (C-19): sc-6866. Western blot analysis of ICAD expression in U-937 (**A**), K-562 (**B**), Jurkat (**C**) and HT-1080 (**D**) whole cell lysates and human stomach tissue extract (**E**).



ICAD (C-19): sc-6866. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human pancreas tissue showing nuclear and cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Tang, D., et al. 1998. Cleavage of DFF-45/ICAD by multiple caspases is essential for its function during apoptosis. J. Biol. Chem. 273: 28549-28552.
2. Yang, X.H., et al. 2001. Reconstitution of caspase-3 sensitizes MCF-7 breast cancer cells to doxorubicin- and etoposide-induced apoptosis. Cancer Res. 61: 348-354.
3. Wu, D., et al. 2002. Apoptotic release of histones from nucleosomes. J. Biol. Chem. 277: 12001-12008.
4. Pilon, A.A., et al. 2002. Induction of apoptosis by a nonnucleoside human immunodeficiency virus type 1 reverse transcriptase inhibitor. Antimicrob. Agents Chemother. 46: 2687-2691.
5. Bhushan, S., et al. 2007. A triterpenediol from *Boswellia serrata* induces apoptosis through both the intrinsic and extrinsic apoptotic pathways in human leukemia HL-60 cells. Apoptosis 12: 1911-1926.
6. Khan, S., et al. 2011. A cyano analogue of boswellic acid induces crosstalk between p53/PUMA/Bax and telomerase that stages the human papillomavirus type 18 positive HeLa cells to apoptotic death. Eur. J. Pharmacol. 660: 241-248.
7. Khan, S., et al. 2012. A novel cyano derivative of 11-keto-β-boswellic acid causes apoptotic death by disrupting PI3K/AKT/Hsp-90 cascade, mitochondrial integrity, and other cell survival signaling events in HL-60 cells. Mol. Carcinog. 51: 679-695.

MONOS Satisfaction Guaranteed

Try **ICAD (F-8): sc-17816** or **ICAD (D-6): sc-398431**, our highly recommended monoclonal alternatives to ICAD (C-19).