SANTA CRUZ BIOTECHNOLOGY, INC.

CAD (FL-338): sc-8342

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ced/ICE or caspase family of cysteine proteases plays a pivotol role in mediating apoptosis through the proteolysis of specific targets. Among the targets are poly(ADP-ribose) polymerase (PARP), Gelsolin, DFF-45 (also designated ICAD, for inhibitor of CAD) and the nuclear lamins. CAD (caspase-activated deoxyribonuclease), also designated CPAN (caspase-activated nuclease) and DFF40, is a DNase that is responsible for DNA degradation during apoptosis. CAD is inhibited by DFF45/ICAD. Caspase-3 acts to dissociate CAD from ICAD, allowing CAD to enter the nucleus and degrade DNA.

REFERENCES

1. Fernandes-Alnemri, T., et al. 1995. Mch3, a novel human apoptotic cysteine protease highly related to CPP32. Cancer Res. 55: 6045-6052.
2. Takahashi, A., et al. 1996. Cleavage of Lamin A by Mch2 α but not CPP32: multiple interleukin-1β-converting enzyme-related proteases with distinct substrate recognition properties are active in apoptosis. Proc. Natl. Acad. Sci. USA 93: 8395-8400.
3. Salvesen, G.S., et al. 1997. Caspases: intracellular signaling by proteolysis. Cell 91: 443-446.
4. Kothakota, S., et al. 1997. Caspase-3-generated fragment of Gelsolin: effector of morphological change in apoptosis. Science 278: 294-298.

CHROMOSOMAL LOCATION

Genetic locus: DFFB (human) mapping to 1p36.32; Dffb (mouse) mapping to 4 E2.

SOURCE

CAD (FL-338) is a rabbit polyclonal antibody raised against amino acids 1-338 representing full length CAD 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.

APPLICATIONS

CAD (FL-338) is recommended for detection of CAD of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CAD siRNA (h): sc-29871, CAD siRNA (m): sc-29872, CAD shRNA Plasmid (h): sc-29871-SH, CAD shRNA Plasmid (m): sc-29872-SH, CAD shRNA (h) Lentiviral Particles: sc-29871-V and CAD shRNA (m) Lentiviral Particles: sc-29872-V.

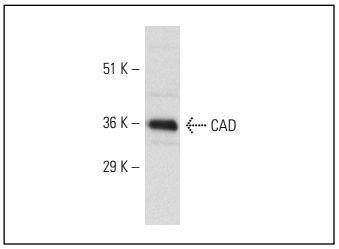
Molecular Weight of CAD: 40 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat nuclear extract: sc-2132 or RAW 309 Cr.1 cell lysate: sc-3814.

STORAGE

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

DATA



CAD (FL-338): sc-8342. Western blot analysis of CAD expression in RAW 309 Cr.1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Bayascas, J.R., et al. 2004. Characterization of splice variants of human caspase-activated DNase with CIDE-N structure and function. FEBS Lett. 566: 234-240.
2. Pusapati, R.V., et al. 2006. ATM promotes apoptosis and suppresses tumorigenesis in response to Myc. Proc. Natl. Acad. Sci. USA 103: 1446-1451.
3. Linardic, C.M., et al. 2007. The PAX3-FKHR fusion gene of rhabdomyosarcoma cooperates with loss of p16INK4A to promote bypass of cellular senescence. Cancer Res. 67: 6691-6699.
4. Carroll, R.E., et al. 2009. Reduced susceptibility to azoxymethane-induced aberrant crypt foci formation and colon cancer in growth hormone deficient rats. Growth Horm. IGF Res. 19: 447-456.
5. Gorantla, B., et al. 2011. Suppression of the uPAR-uPA system retards angiogenesis, invasion, and *in vivo* tumor development in pancreatic cancer cells. Mol. Cancer Res. 9: 377-389.
6. Li, Y., et al. 2012. The involvement of acidic nucleoplasmic DNA-binding protein (And-1) in the regulation of prereplicative complex (pre-RC) assembly in human cells. J. Biol. Chem. 287: 42469-42479.

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.