SANTA CRUZ BIOTECHNOLOGY, INC.

# CIDE-A (4B9): sc-293289

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The DNA fragmentation factor (DFF) is involved in the caspase-3 apoptotic pathway. DFF is composed of two subunits, DFF-45 (also designated ICAD, for inhibitor of CAD), and CPAN (caspase-activated nuclease), also designated CAD (caspase-activated deoxyribonuclease). CPAN is a DNase that is responsible for DNA degradation during apoptosis. CPAN is inhibited by DFF-45. Caspase-3 acts to dissociate CPAN from DFF-45, allowing CPAN to enter the nucleus and degrade DNA. CIDE-A and CIDE-B have been identified as proteins that share homology with the N-terminal region of DFF-45. Like CPAN, CIDE-A and CIDE-B promote cell death and DNA fragmentation and are inhibited by DFF-45.

## REFERENCES


1. 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.
2. Toh, S.Y., et al. 1998. Identification of the nuclear factor HMG2 as an activator for DFF nuclease activity. Biochem. Biophys. Res. Commun. 250: 598-601.
3. Enari, M., et al. 1998. A caspase-activated Dnase that degrades DNA during apoptosis. Nature 391: 43-50.
4. Halenbeck, R., et al. 1998. CPAN, a human nuclease regulated by the caspase-sensitive inhibitor DFF45. Curr. Biol. 8: 537-540.
5. Sakahira, H., et al. 1998. Cleavage of CAD inhibitor in CAD activation and DNA degradation during apoptosis. Nature 391: 96-99.
6. Inohara, N., et al. 1998. CIDE, a novel family of cell death activators with homology to the 45 kDa subunit of the DNA fragmentation factor. EMBO J. 17: 2526-2533.
7. Inohara, N., et al. 1999. Identification of regulatory and catalytic domains in the apoptosis nuclease DFF40/CAD. J. Biol. Chem. 274: 270-274.
8. Lin, S.C., et al. 2004. CIDE-A, a novel link between brown adipose tissue and obesity. Trends Mol. Med. 10: 434-439.
9. Novikova, S.I., et al. 2005. Cocaine-induced changes in the expression of apoptosis-related genes in the fetal mouse cerebral wall. Neurotoxicol. Teratol. 27: 3-14.


## CHROMOSOMAL LOCATION

Genetic locus: CIDEA (human) mapping to 18p11.21.

## SOURCE

CIDE-A (4B9) is a mouse monoclonal antibody raised against amino acids 1-253 of CIDE-A of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CIDE-A (4B9) is recommended for detection of CIDE-A 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CIDE-A siRNA (h): sc-37439, CIDE-A shRNA Plasmid (h): sc-37439-SH and CIDE-A shRNA (h) Lentiviral Particles: sc-37439-V.

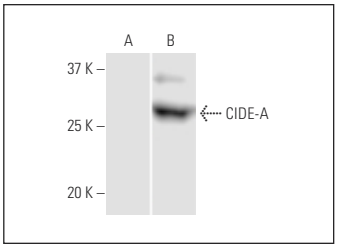
Molecular Weight of CIDE-A: 26 kDa.

Positive Controls: CIDE-A transfected 293T whole cell lysate.

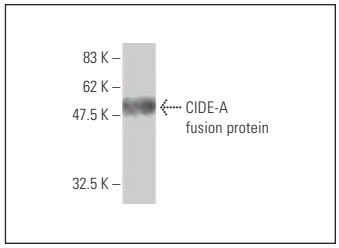
## RECOMMENDED SUPPORT REAGENTS

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).

## DATA




CIDE-A (4B9): sc-293289. Western blot analysis of CIDE-A expression in non-transfected (**A**) and CIDE-A transfected (**B**) 293T whole cell lysates.




CIDE-A (4B9): sc-293289. Western blot analysis of human recombinant CIDE-A fusion protein.

## SELECT PRODUCT CITATIONS


1. Duan, Y.N., et al. 2020. Diphyllin improves high-fat diet-induced obesity in mice through brown and beige adipocytes. Front. Endocrinol. 11: 592818.


## 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.

## PROTOCOLS

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