SANTA CRUZ BIOTECHNOLOGY, INC.

CIDE-B siRNA (m): sc-37442

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 (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

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2. Inohara, N., et al. 1999. Identification of regulatory and catalytic domains in the apoptosis nuclease DFF40/CAD. J. Biol. Chem. 274: 270-274.
3. Erdtmann, L., et al. 2003. The hepatitis C virus NS2 protein is an inhibitor of CIDE-B-induced apoptosis. J. Biol. Chem. 278: 18256-18264.
4. Machado, J.G., et al. 2005. Gene expression profiling of jejunal Peyer's patches in juvenile and adult pigs. Mamm. Genome 16: 599-612.
5. Turpaev, K., et al. 2005. Analysis of differentially expressed genes in nitric oxide-exposed human monocytic cells. Free Radic. Biol. Med. 38: 1392-1400.
6. 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.
7. Da, L., et al. 2006. Dual promoters control the cell-specific expression of the human cell death-inducing DFF45-like effector B gene. Biochem. J. 393: 779-788.
8. Wang, J.M., et al. 2006. Cell death-inducing DFF45-like effector may take part in neuronal apoptosis of the lumbar spinal cord after sciatic nerve injury caused by a firearm. Mil. Med. 171: 793-799.

CHROMOSOMAL LOCATION

Genetic locus: Cideb (mouse) mapping to 14 C3.

PRODUCT

CIDE-B siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CIDE-B shRNA Plasmid (m): sc-37442-SH and CIDE-B shRNA (m) Lentiviral Particles: sc-37442-V as alternate gene silencing products.

For independent verification of CIDE-B (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-37442A, sc-37442B and sc-37442C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CIDE-B siRNA (m) is recommended for the inhibition of CIDE-B expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CIDE-B gene expression knockdown using RT-PCR Primer: CIDE-B (m)-PR: sc-37442-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, H., et al. 2012. Cell death-inducing DFF45-like effector b (Cideb) is present in pancreatic β-cells and involved in palmitate induced β-cell apoptosis. Diabetes Metab. Res. Rev. 28: 145-155.

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.