SANTA CRUZ BIOTECHNOLOGY, INC.

Cables2 siRNA (h): sc-72771

BACKGROUND

Cables2 (Cdk5 and ABL1 enzyme substrate 2), also known as Ik3-2, is a 478 amino acid ubiquitously expressed protein that has a C-terminal cyclin box-containing domain, making it a member of the cyclin protein superfamily. A related protein, Cables, forms a trimolecular complex with Cdk5 and c-Abl *in vivo,* enhances apoptosis induced by overexpression of p53 and may be a tumor suppressor, due to its chromosomal loss of heterozygosity that is found in certain cancers. Cables2 shares 78% sequence similarity with Cables in the region of the cyclin box-containing domain and, in similar functionality, associates with Cdk3, Cdk5 and c-Abl. However, unlike its close relative, Cables2 also contains an N-terminal region that enhances not only p53-mediated cell death, but also p53-independent cell death. This characteristic suggests that the gene encoding Cables2 may also function as a tumor suppressor gene.

REFERENCES

1. Yamochi, T., et al. 2001. ik3-1/Cables is associated with Trap and Pctaire2. Biochem. Biophys. Res. Commun. 286: 1045-1050.
2. Yamochi, T., et al. 2001. ik3-1/Cables is a substrate for cyclin-dependent kinase 3 (cdk 3). Eur. J. Biochem. 268: 6076-6082.
3. Sato, H., et al. 2002. ik3-2, a relative to ik3-1/cables, is associated with cdk3, cdk5, and c-abl. Biochim. Biophys. Acta 1574: 157-163.
4. Tsuji, K., et al. 2002. Differential effect of ik3-1/cables on p53- and p73-induced cell death. J. Biol. Chem. 277: 2951-2957.
5. Strausberg, R.L., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc. Natl. Acad. Sci. USA 99: 16899-16903.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609194. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CABLES2 (human) mapping to 20q13.33.

PRODUCT

Cables2 siRNA (h) 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 Cables2 shRNA Plasmid (h): sc-72771-SH and Cables2 shRNA (h) Lentiviral Particles: sc-72771-V as alternate gene silencing products.

For independent verification of Cables2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72771A, sc-72771B and sc-72771C.

PROTOCOLS

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

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

Cables2 siRNA (h) is recommended for the inhibition of Cables2 expression in human 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.

GENE EXPRESSION MONITORING

Cables2 (D-6): sc-376272 is recommended as a control antibody for monitoring of Cables2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cables2 gene expression knockdown using RT-PCR Primer: Cables2 (h)-PR: sc-72771-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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