SANTA CRUZ BIOTECHNOLOGY, INC.

CaMKIIN2 siRNA (m): sc-141993

BACKGROUND

CaMKII is a ubiquitously expressed serine/threonine protein kinase that is activated by Ca^{2+} and calmodulin (CaM) and has been implicated in regulation of the cell cycle and transcription. CaMKIIN2 (calcium/calmodulin-dependent protein kinase II inhibitor 2) is a 79 amino acid protein that specifically binds to the catalytic domain of CaMKIIα and CaMKIIβ, essentially trapping calcium/CaM on CaMKII and potently inhibiting kinase activity. Overexpression of CaMKIIN2 in colon adenocarcinoma LoVo cells results in a decrease of viable cells, as well as an inhibition of cell proliferation and a blocking of cell growth. CaMKIIN2 is highly expressed in HeLa S3, MOLT and Raji cell lines, as well as in kidney and liver, and is moderately expressed in placenta, skeletal muscle, heart and the K-562 cell line.

REFERENCES

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3. Zhang, J., et al. 2001. Molecular cloning and characterization of a novel calcium/calmodulin-dependent protein kinase II inhibitor from human dendritic cells. Biochem. Biophys. Res. Commun. 285: 229-234.
4. Chang, B.H., et al. 2001. Calcium/calmodulin-dependent protein kinase II inhibitor protein: localization of isoforms in rat brain. Neuroscience 102: 767-777.
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7. Wang, C., et al. 2008. A novel endogenous human CaMKII inhibitory protein suppresses tumor growth by inducing cell cycle arrest via p27 stabilization. J. Biol. Chem. 283: 11565-11574.
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CHROMOSOMAL LOCATION

Genetic locus: Camk2n2 (mouse) mapping to 16 B1.

PRODUCT

CaMKIIN2 siRNA (m) is a target-specific 19-25 nt siRNA 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 CaMKIIN2 shRNA Plasmid (m): sc-141993-SH and CaMKIIN2 shRNA (m) Lentiviral Particles: sc-141993-V as alternate gene silencing products.

RESEARCH USE

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

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

CaMKIIN2 siRNA (m) is recommended for the inhibition of CaMKIIN2 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 CaMKIIN2 gene expression knockdown using RT-PCR Primer: CaMKIIN2 (m)-PR: sc-141993-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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