SANTA CRUZ BIOTECHNOLOGY, INC.

CCRK siRNA (m): sc-142174

BACKGROUND

CCRK (cell cycle related kinase), also known as p42 or CDCH, is a 346 amino acid nuclear protein that is involved in cell growth. Expressed in several different tissues throughout the body, CCRK functions to catalytically phosphorylate the Thr-160 residue on the cell cycle protein Cdk2 (cyclin-dependent kinase 2), thereby activating Cdk2 and allowing the cell cycle to progress. Due to its ability to control cell cycle events, CCRK is thought to be a potential oncogene in several carcinomas including glioblastoma multiforme, an aggressive primary brain tumor. Overexpression of CCRK leads to increased rates of glioblastoma tumor growth, while suppression of CCRK decreases the rate of glioblastoma tumor growth, further supporting its role as a potential oncogene. CCRK exists as a monomer and is expressed as three different isoforms produced by alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610076. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Liu, Y., et al. 2004. p42, a novel cyclin-dependent kinase-activating kinase in mammalian cells. J. Biol. Chem. 279: 4507-4514.
3. Caligiuri, M., et al. 2005. A proteome-wide CDK/CRK-specific kinase inhibitor promotes tumor cell death in the absence of cell cycle progression. Chem. Biol. 12: 1103-1115.
4. Wohlbold, L., et al. 2006. The cyclin-dependent kinase (CDK) family member PNQALRE/CCRK supports cell proliferation but has no intrinsic CDK-activating kinase (CAK) activity. Cell Cycle 5: 546-554.
5. Abbas, T., et al. 2006. CDK2-activating kinase (CAK): more questions than answers. Cell Cycle 5: 1123-1124.
6. Ng, S.S., et al. 2007. Cell cycle-related kinase: a novel candidate oncogene in human glioblastoma. J. Natl. Cancer Inst. 99: 936-948.

CHROMOSOMAL LOCATION

Genetic locus: Cdk20 (mouse) mapping to 13 B3.

PRODUCT

CCRK 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 CCRK shRNA Plasmid (m): sc-142174-SH and CCRK shRNA (m) Lentiviral Particles: sc-142174-V as alternate gene silencing products.

For independent verification of CCRK (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-142174A, sc-142174B and sc-142174C.

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

CCRK siRNA (m) is recommended for the inhibition of CCRK 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 CCRK gene expression knockdown using RT-PCR Primer: CCRK (m)-PR: sc-142174-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 use in diagnostic procedures.