SANTA CRUZ BIOTECHNOLOGY, INC.

CdcA7L siRNA (h): sc-89743

BACKGROUND

Cell cycle events are regulated by the sequential activation and deactivation of cyclin dependent kinases (Cdks) and by the proteolysis of cyclins. The cell division control (Cdc) genes are required at various points in the cell cycle. CdcA7L (cell division cycle-associated 7-like protein), also known as JPO2, R1 and RAM2, is a 454 amino acid protein that suppresses transcription of monoamine oxidase A (MAOA) gene by binding to the promoter, leading to inhibition of apoptosis. CdcA7L also plays an oncogenic role in assisting the full transforming effect of c-Myc in medulloblastoma cells and, although ubiquitously expressed in normal tissue, is correspondingly found to be over-expressed in medulloblastomas. CdcA7L likely acts downstream of p38 and Bcl-2, but upstream of caspase-3, cyclin D1 and E2F-1 in apoptotic signaling pathways. There are two isoforms of CdcA7L that are produced as a result of alternative splicing events.

REFERENCES

1. Huang, A., et al. 2005. Identification of a novel c-Myc protein interactor, JPO2, with transforming activity in medulloblastoma cells. Cancer Res. 65: 5607-5619.
2. Chen, K., et al. 2005. R1, a novel repressor of the human monoamine oxidase A. J. Biol. Chem. 280: 11552-11559.
3. Ou, X.M., et al. 2006. Glucocorticoid and androgen activation of monoamine oxidase A is regulated differently by R1 and Sp1. J. Biol. Chem. 281: 21512-21525.
4. Maertens, G.N., et al. 2006. Transcriptional co-activator p75 binds and tethers the Myc-interacting protein JPO2 to chromatin. J. Cell Sci. 119: 2563-2571.
5. Ou, X.M., et al. 2006. Monoamine oxidase A and repressor R1 are involved in apoptotic signaling pathway. Proc. Natl. Acad. Sci. USA 103: 10923-10928.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609685. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Bartholomeeusen, K., et al. 2007. Differential interaction of HIV-1 integrase and JPO2 with the C terminus of LEDGF/p75. J. Mol. Biol. 372: 407-421.

CHROMOSOMAL LOCATION

Genetic locus: CDCA7L (human) mapping to 7p15.3.

PRODUCT

CdcA7L 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 CdcA7L shRNA Plasmid (h): sc-89743-SH and CdcA7L shRNA (h) Lentiviral Particles: sc-89743-V as alternate gene silencing products.

For independent verification of CdcA7L (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-89743A, sc-89743B and sc-89743C.

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

CdcA7L siRNA (h) is recommended for the inhibition of CdcA7L 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CdcA7L gene expression knockdown using RT-PCR Primer: CdcA7L (h)-PR: sc-89743-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.

PROTOCOLS

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