SANTA CRUZ BIOTECHNOLOGY, INC.

CDK2AP2 siRNA (h): sc-96948

BACKGROUND

CDK2AP1 (cyclin-dependent kinase 2 associated protein 1), also designated p12 and DOC-1, is a growth suppressor that binds to and inhibits DNA pol α/primase. When bound, CDK2AP1 affects the initiation step, but not the elongation phase, of replication. CDK2AP1 also binds to cyclin-dependent kinase 2 (Cdk2) and targets it for proteolysis. CDK2AP1 promotes cell cycle arrest by regulating the S phase of the cycle, and may trigger apoptosis. The growth factor TGFβ1 transcriptionally-induces CDK2AP1 expression, which, in turn, mediates the growth inhibitory activity of TGFβ1 by modulating Cdk2 activities and pRB phosphorylation. Due to its ability to trigger apoptosis, CDK2AP1 is thought to function as a tumor suppressor. CDK2AP2 (cyclin-dependent kinase 2 associated protein 2), also known as p14 or DOC-1R, is a 126 amino acid ubiquitously expressed protein that interacts with CDK2AP1 and may play a role in growth and tumor suppression.

REFERENCES

1. Tsuji, T., et al. 1998. Cloning, mapping, expression, function, and mutation analyses of the human ortholog of the hamster putative tumor suppressor gene Doc-1. J. Biol. Chem. 273: 6704-6709.
2. Zhang, X., et al. 1999. Identification and mutation analysis of DOC-1R, a DOC-1 growth suppressor-related gene. Biochem. Biophys. Res. Commun. 255: 59-63.
3. Shintani, S., et al. 2000. p12 (DOC-1) is a novel cyclin-dependent kinase 2-associated protein. Mol. Cell. Biol. 20: 6300-6307.
4. Matsuo, K., et al. 2000. p12 (DOC-1), a growth suppressor, associates with DNA polymerase α/primase. FASEB J. 14: 1318-1324.
5. Hu, M.G., et al. 2004. Role of p12 (CDK2AP1) in transforming growth factor-b1-mediated growth suppression. Cancer Res. 64: 490-499.
6. Buajeeb, W., et al. 2004. Interaction of the Cdk2-associated protein-1, p12 (DOC-1/CDK2AP1), with its homolog, p14 (DOC-1R). Biochem. Biophys. Res. Commun. 315: 998-1003.
7. Yuan, Z., et al. 2005. Modulation of CDK2AP1 (p12 (DOC-1)) expression in human colorectal cancer. Oncogene 24: 3657-3668.

CHROMOSOMAL LOCATION

Genetic locus: CDK2AP2 (human) mapping to 11q13.2.

PRODUCT

CDK2AP2 siRNA (h) 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 CDK2AP2 shRNA Plasmid (h): sc-96948-SH and CDK2AP2 shRNA (h) Lentiviral Particles: sc-96948-V as alternate gene silencing products.

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

CDK2AP2 siRNA (h) is recommended for the inhibition of CDK2AP2 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 CDK2AP2 gene expression knockdown using RT-PCR Primer: CDK2AP2 (h)-PR: sc-96948-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.