SANTA CRUZ BIOTECHNOLOGY, INC.

p21 Waf1/Cip1 siRNA (m): sc-29428

BACKGROUND

It is now well established that cyclins play a positive role in promoting cell cycle transitions via their ability to associate with and activate their cognate cyclin-dependent kinases (Cdks). Cdk2 associates with cyclins A, D and E, and has been implicated in the control of the G_1 to S phase transition in mammals. A novel Cdk-interacting protein, designated p21 Waf1/Cip1, Cip1 or WAF1, has been identified in cyclin A, cyclin D1, cyclin E and Cdk2 immunoprecipitates. p21 Waf1/Cip1 is a potent, tight-binding inhibitor of Cdks and can inhibit the phosphorylation of Rb by cyclin A-Cdk 2, cyclin E-Cdk2, cyclin D1-Cdk4 and cyclin D2-Cdk4 complexes. Expression of p21 Waf1/Cip1 is inducible by wildtype, but not mutant, p53. The mouse homolog of p21 Waf1/Cip1 is designated CAP20.

CHROMOSOMAL LOCATION

Genetic locus: Cdkn1a (mouse) mapping to 17 A3.3.

PRODUCT

p21 Waf1/Cip1 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 p21 Waf1/Cip1 shRNA Plasmid (m): sc-29428-SH and p21 Waf1/Cip1 shRNA (m) Lentiviral Particles: sc-29428-V as alternate gene silencing 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

p21 Waf1/Cip1 siRNA (m) is recommended for the inhibition of p21 Waf1/Cip1 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.

PROTOCOLS

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

GENE EXPRESSION MONITORING

p21 Waf1/Cip1 (F-5): sc-6246 is recommended as a control antibody for monitoring of p21 Waf1/Cip1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor p21 Waf1/Cip1 gene expression knockdown using RT-PCR Primer: p21 Waf1/Cip1 (m)-PR: sc-29428-PR (20 µl, 480 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

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4. Li, D.Q., et al. 2010. Revelation of p53-independent function of MTA1 in DNA damage response via modulation of the $p21^{WAF1}$-proliferating cell nuclear antigen pathway. J. Biol. Chem. 285: 10044-10052.
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7. Zhou, Q., et al. 2012. Disruption of the p53-p21 pathway inhibits efficiency of the lytic-replication cycle of herpes simplex virus type 2 (HSV-2). Virus Res. 169: 91-97.
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9. Wang, Y., et al. 2015. NGF promotes mouse granulosa cell proliferation by inhibiting ESR2 mediated down-regulation of CDKN1A. Mol. Cell. Endocrinol. 406: 68-77.
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RESEARCH USE

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