SANTA CRUZ BIOTECHNOLOGY, INC.

Cdk3 siRNA (m): sc-37579

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The Power to Question

BACKGROUND

Cell cycle progression is controlled in part by a family of cyclin proteins and cyclin dependent kinases (Cdks). Cdk proteins work in concert with the cyclins to phosphorylate key substrates involved in each phase of cell cycle progression. Another family of proteins, Cdk inhibitors, also plays a role in regulating cell cycle by binding to cyclin-Cdk complexes and modulating their activity. Several Cdk proteins have been identified, including Cdk2-Cdk8, PCTAIRE-1-3, PITALRE and PITSLRE. Cdk3, like Cdk2, is known to be required for the G_1-S transition. Proteins involved in cell cycle control have become the subject of increased interest with regard to their potential roles in tumorigenesis. Both Cdk3 and Cdk2 have been mapped to regions of a human chromosome that may be altered in a variety of tumors.

REFERENCES

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3. MacLachlan, T.K., et al. 1995. Cyclins, cyclin-dependent kinases and Cdk inhibitors: implications in cell cycle control and cancer. Crit. Rev. Eukaryot. Gene Expr. 5: 127-156.
4. Bullrich, F., et al. 1995. Chromosomal mapping of members of the Cdc2 family of protein kinases, Cdk3, Cdk6, PISSLRE, and PITALRE, and a Cdk inhibitor, p27Kip1, to regions involved in human cancer. Cancer Res. 55: 1199-1205.
5. Siebert, R., et al. 1996. Role of the cyclin-dependent kinase 4 and 6 inhibitor gene family p15, p16, p18 and p19 in leukemia and lymphoma. Leuk. Lymphoma 23: 505-520.
6. Hofmann, F., et al. 1996. Differential effects of Cdk2 and Cdk3 on the control of pRb and E2F function during G_1 exit. Genes Dev. 10: 851-861.
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8. Zhang, H., et al. 2005. Aberrant splicing of cables gene, a Cdk regulator, in human cancers. Cancer Biol. Ther. 4: 1211-1215.
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CHROMOSOMAL LOCATION

Genetic locus: Cdk3-ps (mouse) mapping to 11 E2.

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.

PRODUCT

Cdk3 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 Cdk3 shRNA Plasmid (m): sc-37579-SH and Cdk3 shRNA (m) Lentiviral Particles: sc-37579-V as alternate gene silencing products.

For independent verification of Cdk3 (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-37579A, sc-37579B and sc-37579C.

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

Cdk3 siRNA (m) is recommended for the inhibition of Cdk3 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 Cdk3 gene expression knockdown using RT-PCR Primer: Cdk3 (m)-PR: sc-37579-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.