SANTA CRUZ BIOTECHNOLOGY, INC.

DYDC1 siRNA (h): sc-90589

BACKGROUND

The Dumpy-30 (DPY-30) protein was first described in *C. elegans,* in which it is involved in dosage compensation of sex chromosomes. Conserved from yeast to humans, the DPY-30 family is involved in gene expression and chromatin modification, specifically histone methylation. DPY-30 and closely related proteins contain a short motif that is related to the dimerization motif in the regulatory subunit of protein kinase A (PKA), which consists of two α-helices that form a four-helix bundle during dimerization. As a member of the DPY-30 family, DYDC1 (DPY30 domain-containing protein 1), also known as DPY30D1 and RSD9, is a 177 amino acid protein that binds to Endophilin III and plays a crucial role during acrosome biogenesis. DYDC1 is specifically expressed in brain and testis and accumulates in the acrosome area during spermatogenesis. Knockdown of DYDC1 mRNA results in disruption of acrosome formation and spermatid differentiation.

REFERENCES

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3. Lieb, J.D., et al. 2000. The *Caenorhabditis elegans* dosage compensation machinery is recruited to X chromosome DNA attached to an autosome. Genetics 156: 1603-1621.
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6. Kuhl, A., et al. 2008. Myofibrillar myopathy with arrhythmogenic right ventricular cardiomyopathy 7: corroboration and narrowing of the critical region on 10q22.3. Eur. J. Hum. Genet. 16: 367-373.
7. Li, S., et al. 2009. Interaction of SH3P13 and DYDC1 protein: a germ cell component that regulates acrosome biogenesis during spermiogenesis. Eur. J. Cell Biol. 88: 509-520.
8. Patel, A., et al. 2009. On the mechanism of multiple lysine methylation by the human mixed lineage leukemia protein-1 (MLL1) core complex. J. Biol. Chem. 284: 24242-24256.
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CHROMOSOMAL LOCATION

Genetic locus: DYDC1 (human) mapping to 10q23.1.

RESEARCH USE

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

PRODUCT

DYDC1 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 DYDC1 shRNA Plasmid (h): sc-90589-SH and DYDC1 shRNA (h) Lentiviral Particles: sc-90589-V as alternate gene silencing products.

For independent verification of DYDC1 (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-90589A, sc-90589B and sc-90589C.

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

DYDC1 siRNA (h) is recommended for the inhibition of DYDC1 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 DYDC1 gene expression knockdown using RT-PCR Primer: DYDC1 (h)-PR: sc-90589-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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