

SMYD3 siRNA (h): sc-61575

BACKGROUND

SET and MYND domain-containing 3 (SMYD3), a 428-amino acid protein, is a member of an RNA polymerase complex and plays a role in transcriptional regulation. SMYD3 methylates Lys-4 of Histone H3, a specific tag for epigenetic transcriptional activation. The SMYD3 protein contains an N-terminal MYND-type zinc finger domain, followed by a SET domain, which shows methyltransferase activity. The presence of the heatshock protein HSP 90 α greatly enhances SMYD3's methyltransferase activity. SMYD3 is expressed in testis and skeletal muscles and is over-expressed in a majority of colorectal carcinomas (CRCs), hepatocellular carcinomas (HCCs) as well as breast carcinomas (BCs). Inhibition of SMYD3 is a potential chemotherapeutic strategy.

REFERENCES

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5. Zhou, Z., Ren, X., Huang, X., Lu, L., Xu, M., Yin, L., Li, J. and Sha, J. 2005. SMYD3-NY, a novel SMYD3 mRNA transcript variant, may have a role in human spermatogenesis. *Ann. Clin. Lab. Sci.* 35: 270-277.

CHROMOSOMAL LOCATION

Genetic locus: SMYD3 (human) mapping to 1q44.

PRODUCT

SMYD3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SMYD3 shRNA Plasmid (h): sc-61575-SH and SMYD3 shRNA (h) Lentiviral Particles: sc-61575-V as alternate gene silencing products.

For independent verification of SMYD3 (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-61575A, sc-61575B and sc-61575C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SMYD3 siRNA (h) is recommended for the inhibition of SMYD3 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

SMYD3 (C-3): sc-398085 is recommended as a control antibody for monitoring of SMYD3 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SMYD3 gene expression knockdown using RT-PCR Primer: SMYD3 (h)-PR: sc-61575-PR (20 μ l, 419 bp). 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.