SANTA CRUZ BIOTECHNOLOGY, INC.

DHCR24 siRNA (m): sc-60532

BACKGROUND

Dehydrocholesterol reductase (DHCR) proteins are involved in cholesterol bio-synthesis. DHCR7, also designated sterol Delta-7 reductase or 7-DHC reductase, reduces the C7-C8 double bond of 7-dehydrocholesterol. It is a multi-pass membrane protein localizing to the endoplasmic reticulum (ER). Defects in the DHCR7 gene can cause Smith-Lemli-Opitz syndrome (SLOS), an autosomal recessive disorder of sterol metabolism. DHCR24 acts as a catalyst for the reduction of the Delta-24 double bond of sterol intermediates. DHCR24, also designated 3-β-hydroxysterol Delta-24 reductase or seladin-1, binds to FAD and is predominantly expressed in adrenal gland and brain. It is a single-pass membrane protein localizing to the ER or Golgi apparatus. Defects in the DHCR24 gene cause cause the autosomal recessive disorder desmosterolosis.

REFERENCES

1. Wu, C., et al. 2004. Regulation of cellular response to oncogenic and oxidative stress by seladin-1. Nature 432: 640-645.
2. Alkuraya, F.S., et al. 2005. Smith-Lemli-Opitz syndrome in trisomy 13: how does the mix work? Birth Defects Res. A, Clin. Mol. Teratol. 73: 569-571.
3. Cardoso, M.L., et al. 2005. Molecular studies in Portuguese patients with Smith-Lemli-Opitz syndrome and report of three new mutations in DHCR7. Mol. Genet. Metab. 85: 228-235.
4. Di Stasi, D., et al. 2005. DHCR24 gene expression is upregulated in melanoma metastases and associated to resistance to oxidative stress-induced apoptosis. Int. J. Cancer 115: 224-230.
5. Fuller, P.J., et al. 2005. Seladin-1/DHCR24 expression in normal ovary, ovarian epithelial and granulosa tumours. Clin. Endocrinol. 63: 111-115.
6. Matsumoto, Y., et al. 2005. R352Q mutation of the DHCR7 gene is common among Japanese Smith-Lemli-Opitz syndrome patients. J. Hum. Genet. 50: 353-356.
7. Peri, A., et al. 2005. Seladin-1 as a target of estrogen receptor activation in the brain: a new gene for a rather old story? J. Endocrinol. Invest. 28: 285-293.

CHROMOSOMAL LOCATION

Genetic locus: Dhcr24 (mouse) mapping to 4 C7.

PRODUCT

DHCR24 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 DHCR24 shRNA Plasmid (m): sc-60532-SH and DHCR24 shRNA (m) Lentiviral Particles: sc-60532-V as alternate gene silencing products.

For independent verification of DHCR24 (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-60532A, sc-60532B and sc-60532C.

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

DHCR24 siRNA (m) is recommended for the inhibition of DHCR24 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.

GENE EXPRESSION MONITORING

DHCR24 (A-4): sc-398938 is recommended as a control antibody for monitoring of DHCR24 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 DHCR24 gene expression knockdown using RT-PCR Primer: DHCR24 (m)-PR: sc-60532-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.

PROTOCOLS

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