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Lieferung & Zahlungsart

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SANTA CRUZ BIOTECHNOLOGY, INC.

SMCR7 siRNA (m): sc-153622

BACKGROUND

Smith-Magenis syndrome (SMS) is a rare disorder that is characterized by multiple congenital anomalies and mental retardation, with associated sleep disturbance and behavioral abnormalities. Autistic-like behaviors and symptoms begin to develop at about 18 months of age. Although there is no cure for SMS, treatment focuses on the management of its symptoms such as treating sleep disturbance, management of behaviors, speech and occupational therapies, as well as minor medical interventions. The genetic locus of 17p11.2 is deleted in patients affected with SMS. Many studies have linked the disorder to the haploinsufficiency of the retinoic acid-induced 1 (RAI1) gene that maps within the Smith-Magenis chromosome region. SMCR7 (Smith-Magenis syndrome chromosomal region candidate gene 7) is a 454 amino acid single-pass membrane protein that is encoded by a gene that also maps within the critical region of deletion in SMS. SMCR7 is expressed in all tissues with highest expression in skeletal muscle and heart. There are two isoforms of SMCR7 that are produced as a result of alternative splicing events.

REFERENCES

1. Moncla, A., et al 1991. Smith-Magenis syndrome: a new contiguous gene syndrome. Report of three new cases. J. Med. Genet. 28: 627-632.
2. Fischer, H., et al. 1993. Constitutional interstitial deletion of 17(p11.2) (Smith-Magenis syndrome): a clinically recognizable microdeletion syndrome. Report of two cases and review of the literature. Klin. Padiatr. 205: 162-166.
3. Bi, W., et al. 2002. Genes in a refined Smith-Magenis syndrome critical deletion interval on chromosome 17p11.2 and the syntenic region of the mouse. Genome Res. 12: 713-728.
4. Gropman, A.L., et al. 2006. Neurologic and developmental features of the Smith-Magenis syndrome (del 17p11.2). Pediatr. Neurol. 34: 337-350.
5. Gropman, A.L., et al. 2007. New developments in Smith-Magenis syndrome (del 17p11.2). Curr. Opin. Neurol. 20: 125-134.
6. Elsea, S.H. and Girirajan, S. 2008. Smith-Magenis syndrome. Eur. J. Hum. Genet. 16: 412-421.

CHROMOSOMAL LOCATION

Genetic locus: Mief2 (mouse) mapping to 11 B2.

PRODUCT

SMCR7 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 SMCR7 shRNA Plasmid (m): sc-153622-SH and SMCR7 shRNA (m) Lentiviral Particles: sc-153622-V as alternate gene silencing products.

For independent verification of SMCR7 (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-153622A, sc-153622B and sc-153622C.

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

SMCR7 siRNA (m) is recommended for the inhibition of SMCR7 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

SMCR7 (A-5): sc-515759 is recommended as a control antibody for monitoring of SMCR7 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 SMCR7 gene expression knockdown using RT-PCR Primer: SMCR7 (m)-PR: sc-153622-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.