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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

MOXD1 siRNA (m): sc-149521

BACKGROUND

MOXD1 (MOXD1 monooxygenase, DBH-like 1), also known as DBH-like monooxygenase protein 1 or monooxygenase X, is a 613 amino acid single-pass type I membrane protein of the Endoplasmic reticulum that belongs to the copper type II ascorbate-dependent monooxygenase family. Existing as two alternatively spliced isoforms, MOXD1 is expressed in adult spinal cord, adrenal gland, brain, testis, uterus, lung and kidney, as well as fetal liver and brain. MOXD1 is upregulated during replicative senescence in primary fibroblast and umbilical vein endothelial cell cultures, and uses two copper ions per subunit as a cofactor. MOXD1 contains one DOMON domain, undergoes post-translational N-glycosylation and is encoded by a gene that maps to human chromosome 6. Chromosome 6 contains 170 million base pairs, comprises nearly 6% of the human genome and is associated with early onset intestinal cancer, Porphyria cutanea tarda, Parkinson's disease and Stickler syndrome.

REFERENCES

1. Brunner, H.G., et al. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. Hum. Mol. Genet. 3: 1561-1564.
2. Chambers, K.J., et al. 1998. Identification and cloning of a sequence homologue of dopamine β-hydroxylase. Gene 218: 111-120.
3. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile Parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. Proc. Natl. Acad. Sci. USA 100: 5956-5961.
4. Xin, X., et al. 2004. Monooxygenase X, a member of the copper-dependent monooxygenase family localized to the endoplasmic reticulum. J. Biol. Chem. 279: 48159-48167.
5. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. Genes Chromosomes Cancer 47: 159-164.

CHROMOSOMAL LOCATION

Genetic locus: Moxd1 (mouse) mapping to 10 A4.

PRODUCT

MOXD1 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 MOXD1 shRNA Plasmid (m): sc-149521-SH and MOXD1 shRNA (m) Lentiviral Particles: sc-149521-V as alternate gene silencing products.

For independent verification of MOXD1 (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-149521A, sc-149521B and sc-149521C.

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 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

MOXD1 siRNA (m) is recommended for the inhibition of MOXD1 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 MOXD1 gene expression knockdown using RT-PCR Primer: MOXD1 (m)-PR: sc-149521-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.