SANTA CRUZ BIOTECHNOLOGY, INC.

Sialin siRNA (h): sc-61545

BACKGROUND

Sialin, also designated sodium/sialic acid cotransporter or membrane glycoprotein HP59, belongs to the major facilitator superfamily and the sodium/anion cotransporter family of proteins. Sialin acts as a solute translocator for anionic substances; in lysosomes it is a free sialic acid transporter. Sialin is a multipass membrane protein that localizes to the lysosome and is primarily detected in fetal lung and small intestine. It is also expressed in adult placenta, kidney and pancreas, and may be detected in colon, breast and ovary tumor endothelial cells as well. Defects in the SLC17A5 gene, which encodes the Sialin protein, can cause several disorders including Salla disease, an autosomal recessive sialic acid storage disease, as well as infantile sialic acid storage disorder (ISSD), a severe form of sialic acid storage disease in which affected newborns exhibit coarse features, visceromegaly (an enlargement of the internal organs) and a failure to thrive after birth.

REFERENCES

1. Biancheri, R., et al. 2005. Homozygosity for the p.K136E mutation in the SLC17A5 gene as cause of an Italian severe Salla disease. Neurogenetics 6: 195-199.
2. Allen, S., et al. 2005. Novel sialic acid transporter of *Haemophilus influenzae*. Infect. Immun. 73: 5291-5300.
3. Post, D.M., et al. 2005. Identification of a novel sialic acid transporter in *Haemophilus ducreyi*. Infect. Immun. 73: 6727-6735.
4. Yarovaya, N., et al. 2005. Sialin, an anion transporter defective in sialic acid storage diseases, shows highly variable expression in adult mouse brain, and is developmentally regulated. Neurobiol. Dis. 19: 351-365.
5. Wreden, C.C., et al. 2005. Varied mechanisms underlie the free sialic acid storage disorders. J. Biol. Chem. 280: 1408-1416.
6. Morse, R.P., et al. 2006. Novel form of intermediate Salla disease: clinical and neuroimaging features. J. Child Neurol. 20: 814-816.

CHROMOSOMAL LOCATION

Genetic locus: SLC17A5 (human) mapping to 6q13.

PRODUCT

Sialin 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 Sialin shRNA Plasmid (h): sc-61545-SH and Sialin shRNA (h) Lentiviral Particles: sc-61545-V as alternate gene silencing products.

For independent verification of Sialin (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-61545A, sc-61545B and sc-61545C.

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

Sialin siRNA (h) is recommended for the inhibition of Sialin 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 Sialin gene expression knockdown using RT-PCR Primer: Sialin (h)-PR: sc-61545-PR (20 µl, 571 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.