SANTA CRUZ BIOTECHNOLOGY, INC.

MFSD8 siRNA (h): sc-89155

BACKGROUND

The major facilitator superfamily consists of presumed carbohydrate transporters with 10 to 12 membrane-spanning domains. MFSD8 (major facilitator superfamily domain containing 8), also known as CLN7 (ceroid-lipofuscinosis neuronal protein 7), is a 518 amino acid multi-pass membrane protein of the lysosome that is thought to function as a carrier protein that transports small solutes by way of chemiosmotic ion gradients. Expressed at low levels in many tissues, MFSD8 is encoded by a gene that maps to human chromosome 4q28.2. Defects in the gene encoding MFSD8 are the cause of a late infantile neuronal ceroid lipofuscinosis known as neuronal ceroid lipofuscinosis type 7 (CLN7). CLN7 is characterized by seizures, progressive dementia and visual failure.

REFERENCES

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4. Kousi, M., et al. 2009. Mutations in CLN7/MFSD8 are a common cause of variant late-infantile neuronal ceroid lipofuscinosis. Brain 132: 810-819.
5. Aiello, C., et al. 2009. Mutations in MFSD8/CLN7 are a frequent cause of variant-late infantile neuronal ceroid lipofuscinosis. Hum. Mutat. 30: E530-E540.
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7. Aldahmesh, M.A., et al. 2009. Neuronal ceroid lipofuscinosis caused by MFSD8 mutations: a common theme emerging. Neurogenetics 10: 307-311.
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CHROMOSOMAL LOCATION

Genetic locus: MFSD8 (human) mapping to 4q28.2.

PRODUCT

MFSD8 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 MFSD8 shRNA Plasmid (h): sc-89155-SH and MFSD8 shRNA (h) Lentiviral Particles: sc-89155-V as alternate gene silencing products.

For independent verification of MFSD8 (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-89155A, sc-89155B and sc-89155C.

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

MFSD8 siRNA (h) is recommended for the inhibition of MFSD8 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 MFSD8 gene expression knockdown using RT-PCR Primer: MFSD8 (h)-PR: sc-89155-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.