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mucolipin 1 siRNA (m): sc-44520

BACKGROUND

The gene encoding human mucolipin 1 maps to chromosome 19p13.2. Mutations in this gene cause a rare autosomal recessive lysosomal storage disease known as mucopolipidosis type IV (MLIV). Clinical characteristics of MLIV include psychomotor retardation, retinal degeneration, corneal opacities and strabismus. Mucolipin 1 localizes to the plasma membrane and contains six transmembrane domains. The carboxy-terminus of mucolipin 1 shares sequence homology with Polycystin-2 and the transient receptor potential cation channel family. The concentration of intracellular Ca²⁺ regulates the permeability of mucolipin 1 to Ca²⁺, Na⁺ and K⁺. The influence of Ca²⁺ on mucolipin 1 represents a possible role for mucolipin 1 in lysosomal exocytosis and the trafficking of late endosomes and lysosomes.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Mcoln1 (mouse) mapping to 8 A1.1.

PRODUCT

mucolipin 1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see mucolipin 1 shRNA Plasmid (m): sc-44520-SH and mucolipin 1 shRNA (m) Lentiviral Particles: sc-44520-V as alternate gene silencing products.

For independent verification of mucolipin 1 (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-44520A, sc-44520B and sc-44520C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

mucolipin 1 siRNA (m) is recommended for the inhibition of mucolipin 1 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 μ M in 66 μ l. 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 mucolipin 1 gene expression knockdown using RT-PCR Primer: mucolipin 1 (m)-PR: sc-44520-PR (20 μ l, 538 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Park, H.J., Gholam-Zadeh, M., Suh, J.H. and Choi, H.S. 2019. Lycorine attenuates autophagy in osteoclasts via an axis of mROS/TRPML1/TFEB to reduce LPS-induced bone loss. *Oxid. Med. Cell. Longev.* 2019: 8982147.

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.