

mucolipin 2 siRNA (h): sc-72371

BACKGROUND

The mucolipins are a family of cation channel proteins designated mucolipin 1, mucolipin 2 and mucolipin 3. Mucolipin 2 is a lysosomal protein that interacts with the ARF6-associated pathway through co-localization with the cargo proteins CD59 and MHC1. These interactions are thought to traffic and regulate the sorting of certain glycosyl-anchored proteins in the ARF6-associated pathway. Mucolipin 2 is found primarily in the plasma membrane, but is also expressed in intracellular vesicles, tubular structures and B lymphocytes. Mucolipin 2 expression in B lymphocytes and its association with Bruton's tyrosine kinase suggests a possible role in B lymphocyte development. Additionally, defects in the mucolipin 2 gene may be associated with certain neurosensory disorders, as well as swelling of late endosomes and lysosomes.

REFERENCES

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3. Chenik, M., Douagi, F., Achour, Y.B., Khalef, N.B., Ouakad, M., Louzir, H. and Dellagi, K. 2005. Characterization of two different mucolipin-like genes from *Leishmania major*. *Parasitol. Res.* 98: 5-13.
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CHROMOSOMAL LOCATION

Genetic locus: MCOLN2 (human) mapping to 1p22.3.

PRODUCT

mucolipin 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see mucolipin 2 shRNA Plasmid (h): sc-72371-SH and mucolipin 2 shRNA (h) Lentiviral Particles: sc-72371-V as alternate gene silencing products.

For independent verification of mucolipin 2 (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-72371A, sc-72371B and sc-72371C.

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 2 siRNA (h) is recommended for the inhibition of mucolipin 2 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 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.

GENE EXPRESSION MONITORING

mucolipin 2 (F-1): sc-393538 is recommended as a control antibody for monitoring of mucolipin 2 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 mucolipin 2 gene expression knockdown using RT-PCR Primer: mucolipin 2 (h)-PR: sc-72371-PR (20 μ l). 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.