SANTA CRUZ BIOTECHNOLOGY, INC.

mucolipin 2 siRNA (m): sc-72372

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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2. Qian, F. and Noben-Trauth, K. 2005. Cellular and molecular function of mucolipins (TRPML) and polycystin 2 (TRPP2). Pflugers Arch. 451: 277-285.
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.
4. Venkatachalam, K., Hofmann, T. and Montell, C. 2006. Lysosomal localization of TRPML3 depends on TRPML2 and the mucolipidosis-associated protein TRPML1. J. Biol. Chem. 281: 17517-17527.
5. Song, Y., Dayalu, R., Matthews, S.A. and Scharenberg, A.M. 2006. TRPML cation channels regulate the specialized lysosomal compartment of vertebrate B lymphocytes. Eur. J. Cell Biol. 85: 1253-1264.
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CHROMOSOMAL LOCATION

Genetic locus: Mcoln2 (mouse) mapping to 3 H2.

PRODUCT

mucolipin 2 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 mucolipin 2 shRNA Plasmid (m): sc-72372-SH and mucolipin 2 shRNA (m) Lentiviral Particles: sc-72372-V as alternate gene silencing products.

For independent verification of mucolipin 2 (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-72372A, sc-72372B and sc-72372C.

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

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

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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (m)-PR: sc-72372-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.