SANTA CRUZ BIOTECHNOLOGY, INC.

myomegalin siRNA (m): sc-75850

BACKGROUND

Myomegalin, also known as PDE4DIP (phosphodiesterase 4D-interacting protein), CMYA2 (cardiomyopathy-associated protein 2) or MMGL, is a 2,346 amino acid protein that contains one NBPF domain and localizes to the nucleus, cytoplasm, centrosome and Golgi apparatus. Expressed at high levels in fetal and adult heart and at lower levels in brain and placenta, myomegalin is thought to function as an anchoring protein that sequesters members of the cAMP-dependent pathway to the Golgi and to centrosomes, thereby mediating cAMP pathway dynamics. Translocations in the gene that encodes myomegalin are associated with myeloproliferative disorders (MBDs), a group of diseases caused by an overproduction of blood cells. Myomegalin exists as twelve isoforms due to alternative splicing events.

REFERENCES

1. Soejima, H., Kawamoto, S., Akai, J., Miyoshi, O., Arai, Y., Morohka, T., Matsuo, S., Niikawa, N., Kimura, A., Okubo, K. and Mukai, T. 2001. Isolation of novel heart-specific genes using the BodyMap database. Genomics 74: 115-120.
2. Verde, I., Pahlke, G., Salanova, M., Zhang, G., Wang, S., Coletti, D., Onuffer, J., Jin, S.L. and Conti, M. 2001. Myomegalin is a novel protein of the Golgi/centrosome that interacts with a cyclic nucleotide phospho-diesterase. J. Biol. Chem. 276: 11189-11198.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608117. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Wilkinson, K., Velloso, E.R., Lopes, L.F., Lee, C., Aster, J.C., Shipp, M.A. and Aguiar, R.C. 2003. Cloning of the t(1;5)(q23;q33) in a myeloproliferative disorder associated with eosinophilia: involvement of PDGFRB and response to imatinib. Blood 102: 4187-4190.
5. Bond, J. and Woods, C.G. 2006. Cytoskeletal genes regulating brain size. Curr. Opin. Cell Biol. 18: 95-101.
6. Osadchii, O.E. 2007. Myocardial phosphodiesterases and regulation of cardiac contractility in health and cardiac disease. Cardiovasc Drugs Ther. 21: 171-194.

CHROMOSOMAL LOCATION

Genetic locus: Pde4dip (mouse) mapping to 3 F2.2.

PRODUCT

myomegalin 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 myomegalin shRNA Plasmid (m): sc-75850-SH and myomegalin shRNA (m) Lentiviral Particles: sc-75850-V as alternate gene silencing products.

For independent verification of myomegalin (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-75850A, sc-75850B and sc-75850C.

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

myomegalin siRNA (m) is recommended for the inhibition of myomegalin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor myomegalin gene expression knockdown using RT-PCR Primer: myomegalin (m)-PR: sc-75850-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.