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SANTA CRUZ BIOTECHNOLOGY, INC.

phospholemman siRNA (m): sc-152233

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Phospholemman, a member of the FXYD family of small membrane proteins, forms ion channels in the lipid bilayer that exhibit two novel features, selectivity for zwitterion tauring and switching between anion and cation-selective conformations. Taurine contributes as an osmolyte to regulate volume decrease, inplying a role for phospholemman in this process. Furthermore, phospholemman phosphorylation occurs following adrenergic or Insulin stimulation of cardiac and skeletal muscle, which belies a potential role in muscle contractility. FXYD proteins also interact with Na, K-ATPase in either the Golgi or plasma membrane in a tissue and isotype-specific manner, thus providing a possible mechanism for regulation of muscle contraction by phospholemman.

REFERENCES

1. Chen, Z.H., Jones, L.R. and Moorman, J.R. 1999. Ion currents through mutant phospholemman channel molecules. Receptors Channels 6: 435-447.
2. Morales-Mulia, M., Pasantes-Morales, H. and Morán, J. 2000. Volume sensitive efflux of taurine in HEK293 cells overexpressing phospholemman. Biochim. Biophys. Acta 1496: 252-260.
3. Bogaev, R.C., Jia, L.G., Kobayashi, Y.M., Palmer, C.J., Mounsey, J.P., Moorman, J.R., Jones, L.R. and Tucker, A.L. 2001. Gene structure and expression of phospholemman in mouse. Gene 271: 69-79.
4. Crambert, G., Fuzesi, M., Garty, H., Karlish, S. and Geering, K. 2002. Phospholemman (FXYD1) associates with Na,K-ATPase and regulates its transport properties. Proc. Natl. Acad. Sci. USA 99: 11476-11481.

CHROMOSOMAL LOCATION

Genetic locus: Fxyd1 (mouse) mapping to 7 B1.

PRODUCT

phospholemman siRNA (m) is a target-specific 19-25 nt siRNA 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 phospholemman shRNA Plasmid (m): sc-152233-SH and phospholemman shRNA (m) Lentiviral Particles: sc-152233-V as alternate gene silencing products.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

phospholemman siRNA (m) is recommended for the inhibition of phospholemman 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

phospholemman (E-8): sc-515395 is recommended as a control antibody for monitoring of phospholemman 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor phospholemman gene expression knockdown using RT-PCR Primer: phospholemman (m)-PR: sc-152233-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.