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SANTA CRUZ BIOTECHNOLOGY, INC.

TRPV6 siRNA (m): sc-44172

BACKGROUND

The transient receptor potential (TRP) protein family consists of a diverse group of cation channels functioning in a variety of homeostatic and regulatory pathways. Four subfamilies exist, based on channel domain homology, not activating stimuli: C type (canonical or classical), V type (vanilloid receptor related), M type (melastatin related) and P type (PKD). TRPV6 belongs to the V type subfamily, and it facilitates calcium entry across the plasma membrane in pancreas, placenta and, to a lesser extent, stomach and kidney tissue. Furthermore, prostate cancer cells overexpress TRPV6, while benign prostate tissues do not express the protein, implying a role for TRPV6 in malignant growth.

REFERENCES

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2. Hoenderop, J.G., et al. 2003. Homo- and heterotetrameric architecture of the epithelial Ca^{2+} channels TRPV5 and TRPV6. EMBO J. 22: 776-785.
3. van de Graaf, S.F., et al. 2003. Functional expression of the epithelial Ca^{2+} channels (TRPV5 and TRPV6) requires association of the S100A10-annexin 2 complex. EMBO J. 22: 1478-1487.
4. Fixemer, T., et al. 2003. Expression of the Ca^{2+}-selective cation channel TRPV6 in human prostate cancer: a novel prognostic marker for tumor progression. Oncogene 22: 7858-7861.
5. Birnbaumer, L., et al. 2003. A comparison of the genes coding for canonical TRP channels and their M, V and P relatives. Cell Calcium 33: 419-432.
6. Hirnet, D., et al. 2003. The TRPV6 gene, cDNA and protein. Cell Calcium 33: 509-518.
7. Wissenbach, U., et al. 2004. TRPV6 and prostate cancer: cancer growth beyond the prostate correlates with increased TRPV6 Ca^{2+} channel expression. Biochem. Biophys. Res. Commun. 322: 1359-1363.
8. Lambers, T.T., et al. 2004. Regulation of the mouse epithelial Ca^{2+} channel TRPV6 by the Ca^{2+}-sensor calmodulin. J. Biol. Chem. 279: 28855-28861.

CHROMOSOMAL LOCATION

Genetic locus: Trpv6 (mouse) mapping to 6 B2.1.

PRODUCT

TRPV6 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 TRPV6 shRNA Plasmid (m): sc-44172-SH and TRPV6 shRNA (m) Lentiviral Particles: sc-44172-V as alternate gene silencing products.

For independent verification of TRPV6 (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-44172A, sc-44172B and sc-44172C.

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

TRPV6 siRNA (m) is recommended for the inhibition of TRPV6 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 TRPV6 gene expression knockdown using RT-PCR Primer: TRPV6 (m)-PR: sc-44172-PR (20 µl, 520 bp). 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.