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TRPM5 siRNA (h): sc-44169

BACKGROUND

Transient receptor potential ion channels (TRPCs) are a superfamily of six transmembrane segment-spanning, gated cation channels. TRPC subtypes mediate store-operated Ca^{2+} entry, a process involving Ca^{2+} influx and replenishment of Ca^{2+} stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other Ca^{2+} mobilizing agents. TRP ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. TRPM5 forms a cation channel that is directly activated by micromolar concentrations of intracellular Ca^{2+} . Sustained exposure to Ca^{2+} desensitizes TRPM5 channels, but phosphatidylinositol-4,5-bisphosphate reverses desensitization, partially restoring channel activity. TRPM5 channels are nonselective among monovalent cations and not detectably permeable to divalent cations.

REFERENCES

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- Hofmann, T., Chubanov, V., Gudermann, T. and Montell, C. 2003. TRPM5 is a voltage-modulated and Ca^{2+} -activated monovalent selective cation channel. *Curr. Biol.* 13: 1153-1158.
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- Perraud A.L., Knowles, H.M. and Schmitz, C. 2004. Novel aspects of signaling and ion-homeostasis regulation in immunocytes. The TRPM ion channels and their potential role in modulating the immune response. *Mol. Immunol.* 41: 657-673.

CHROMOSOMAL LOCATION

Genetic locus: TRPM5 (human) mapping to 11p15.5.

PRODUCT

TRPM5 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TRPM5 shRNA Plasmid (h): sc-44169-SH and TRPM5 shRNA (h) Lentiviral Particles: sc-44169-V as alternate gene silencing products.

For independent verification of TRPM5 (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-44169A, sc-44169B and sc-44169C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

TRPM5 siRNA (h) is recommended for the inhibition of TRPM5 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 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 TRPM5 gene expression knockdown using RT-PCR Primer: TRPM5 (h)-PR: sc-44169-PR (20 μl). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

PROTOCOLS

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