TRPM2 siRNA (h): sc-42674

**BACKGROUND**

Transient receptor potential ion channels (TRPC) are a superfamily of six transmembrane segment-spanning, gated cation channels. TRP 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-, mecano- and osmo-regulatory events. TRPM2 (known also as LTRPC2) is highly expressed in brain as well as in bone marrow, spleen, heart, liver and lung. Activation of TRPM2 by oxidative stress or TNFα extends susceptibility to cell death. Three physiological splice variants of human TRPM2 have been identified. The short variant of TRPM2, with a deletion in the carboxy-terminus, has been shown to function as an inhibitor of activity of the full-length TRPM2.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: TRPM2 (human) mapping to 21q22.3.

**PRODUCT**

TRPM2 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 TRPM2 shRNA Plasmid (h): sc-42674-SH and TRPM2 shRNA (h) Lentiviral Particles: sc-42674-V as alternate gene silencing products.

For independent verification of TRPM2 (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-42674A, sc-42674B and sc-42674C.

**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**

TRPM2 siRNA (h) is recommended for the inhibition of TRPM2 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-36888 (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-44233, 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 TRPM2 gene expression knockdown using RT-PCR Primer: TRPM2 (h)-PR: sc-42674-PR (20 µl, 571 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.