SANTA CRUZ BIOTECHNOLOGY, INC.

SLC35G1 siRNA (h): sc-90554

BACKGROUND

SLC35G1 (solute carrier family 35 member G1), also known as transmembrane protein 20 (TMEM20) or partner of STIM1 (POST), is a 365 amino acid multi-pass membrane protein belonging to the TMEM20 family. SLC35G1 contains two EamA domains and exists as two alternatively spliced isoforms. SLC35G1 is located in the cell membrane and the endoplasmic reticulum membrane, and is thought to play a role in homeostasis and sensing intracellular calcium. SLC35G1 interacts with STIM1 (stromal interaction molecular 1), an endoplasmic reticulum calcium sensor, and Orai1, a highly calcium-selective plasma membrane ion channel. SLC35G1 may prevent calcium efflux from the cell by reducing plasma membrane calcium pump activity by acting as a negative regulator of plasma membrane calcium-transporting ATPases such as ATP2B1 and ATP2B4.

REFERENCES

1. Liou, J., et al. 2005. STIM is a Ca^{2+} sensor essential for Ca^{2+}-store-depletion-triggered Ca^{2+} influx. Curr. Biol. 15: 1235-1241.
2. Soboloff, J., et al. 2006. Orai1 and STIM reconstitute store-operated calcium channel function. J. Biol. Chem. 281: 20661-20665.
3. Park, C.Y., et al. 2009. STIM1 clusters and activates CRAC channels via direct binding of a cytosolic domain to Orai1. Cell 136: 876-890.
4. Abdelmohsen, K., et al. 2009. Ubiquitin-mediated proteolysis of HuR by heat shock. EMBO J. 28: 1271-1282.
5. Västermark, A., et al. 2011. Functional specialization in nucleotide sugar transporters occurred through differentiation of the gene cluster EamA (DUF6) before the radiation of Viridiplantae. BMC Evol. Biol. 11: 123.
6. Krapivinsky, G., et al. 2011. POST, partner of stromal interaction molecule 1 (STIM1), targets STIM1 to multiple transporters. Proc. Natl. Acad. Sci. USA 108: 19234-19239.

CHROMOSOMAL LOCATION

Genetic locus: SLC35G1 (human) mapping to 10q23.33.

PRODUCT

SLC35G1 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 SLC35G1 shRNA Plasmid (h): sc-90554-SH and SLC35G1 shRNA (h) Lentiviral Particles: sc-90554-V as alternate gene silencing products.

For independent verification of SLC35G1 (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-90554A, sc-90554B and sc-90554C.

PROTOCOLS

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

APPLICATIONS

SLC35G1 siRNA (h) is recommended for the inhibition of SLC35G1 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 SLC35G1 gene expression knockdown using RT-PCR Primer: SLC35G1 (h)-PR: sc-90554-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.