

MASS1 siRNA (m): sc-42014

BACKGROUND

G protein-coupled receptors (GPCRs) are the largest superfamily of related proteins. All have seven-transmembrane segments and allow cells to sample and respond to their environment. MASS1 (for monogenic audiogenic seizure susceptibility 1) is one of the largest known GPCRs and is therefore referred to as Very Large G protein-coupled receptor 1 (VLGR1). MASS1 is a large, calcium-binding GPCR expressed in the central nervous system and the eye. MASS1 has a large ectodomain containing multiple calcium exchanger β repeats that resemble regulatory domains of sodium-calcium exchanger proteins. The human MASS1 gene maps to chromosome 5q14.3 and encodes a 1,967 amino acid protein. The MASS1 gene has been linked to the autosomal recessive inheritance of general epilepsy in Frings mice that have seizures in response to loud noises.

REFERENCES

1. Nikkila, H., McMillan, D.R., Nunez, B.S., Pascoe, L., Curnow, K.M. and White, P.C. 2000. Sequence similarities between a novel putative G protein-coupled receptor and $\text{Na}^+/\text{Ca}^{2+}$ exchangers define a cation binding domain. *Mol. Endocrinol.* 14: 1351-1364.
2. Skradski, S.L., Clark, A.M., Jiang, H., White, H.S., Fu, Y.H. and Ptacek, L.J. 2001. A novel gene causing a mendelian audiogenic mouse epilepsy. *Neuron* 31: 537-544.
3. McMillan, D.R., Kayes-Wandover, K.M., Richardson, J.A. and White, P.C. 2002. Very Large G protein-coupled receptor-1, the largest known cell surface protein, is highly expressed in the developing central nervous system. *J. Biol. Chem.* 277: 785-792.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602851. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. LocusLink Report (LocusID: 84059). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Mass1 (mouse) mapping to 13 C3.

PRODUCT

MASS1 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 MASS1 shRNA Plasmid (m): sc-42014-SH and MASS1 shRNA (m) Lentiviral Particles: sc-42014-V as alternate gene silencing products.

For independent verification of MASS1 (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-42014A, sc-42014B and sc-42014C.

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

MASS1 siRNA (m) is recommended for the inhibition of MASS1 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 MASS1 gene expression knockdown using RT-PCR Primer: MASS1 (m)-PR: sc-42014-PR (20 μl). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

RESEARCH USE

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