

# QSER1 siRNA (m): sc-152615

## BACKGROUND

QSER1 (Glutamine and serine-rich protein 1) is a 1,735 amino acid protein that is phosphorylated upon DNA damage, probably by Atm or ATR. A single nucleotide polymorphism (SNP) that is nearly equidistant between the genes QSER1 and PRRG4 on chromosome 11, at just under 20 kb from each, has been suspected of association with Parkinson disease. Existing as two alternatively spliced isoforms, the QSER1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 11p13. With approximately 135 million base pairs and 1,400 genes, chromosome 11 makes up around 4% of human genomic DNA and is considered a gene and disease association dense chromosome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are also associated with defects in chromosome 11.

## REFERENCES

1. Grossfeld, P.D., Mattina, T., Lai, Z., Favier, R., Jones, K.L., Cotter, F. and Jones, C. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. *Am. J. Med. Genet. A* 129A: 51-61.
2. Zehelein, J., Kathoefer, S., Khalil, M., Alter, M., Thomas, D., Brockmeier, K., Ulmer, H.E., Katus, H.A. and Koenen, M. 2006. Skipping of Exon 1 in the KCNQ1 gene causes Jervell and Lange-Nielsen syndrome. *J. Biol. Chem.* 281: 35397-35403.
3. Taylor, T.D., Noguchi, H., Totoki, Y., Toyoda, A., Kuroki, Y., Dewar, K., Lloyd, C., Itoh, T., Takeda, T., Kim, D.W., She, X., Barlow, K.F., Bloom, T., Bruford, E., Chang, J.L., Cuomo, C.A., Eichler, E., FitzGerald, M.G., Jaffe, D.B., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. *Nature* 440: 497-500.
4. Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
5. Schippert, R., Schaeffel, F. and Feldkaemper, M.P. 2008. Microarray analysis of retinal gene expression in chicks during imposed myopic defocus. *Mol. Vis.* 14: 1589-1599.
6. Dephoure, N., Zhou, C., Villén, J., Beausoleil, S.A., Bakalarski, C.E., Elledge, S.J. and Gygi, S.P. 2008. A quantitative atlas of mitotic phosphorylation. *Proc. Natl. Acad. Sci. USA* 105: 10762-10767.
7. Latourelle, J.C., Pankratz, N., Dumitriu, A., Wilk, J.B., Goldwurm, S., Pezzoli, G., Mariani, C.B., DeStefano, A.L., Halter, C., Gusella, J.F., Nichols, W.C., Myers, R.H. and Foroud, T. 2009. Genomewide association study for onset age in Parkinson disease. *BMC Med. Genet.* 10: 98.

## CHROMOSOMAL LOCATION

Genetic locus: Qser1 (mouse) mapping to 2 E2.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

QSER1 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see QSER1 shRNA Plasmid (m): sc-152615-SH and QSER1 shRNA (m) Lentiviral Particles: sc-152615-V as alternate gene silencing 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

QSER1 siRNA (m) is recommended for the inhibition of QSER1 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  $\mu$ M in 66  $\mu$ l. 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 QSER1 gene expression knockdown using RT-PCR Primer: QSER1 (m)-PR: sc-152615-PR (20  $\mu$ l). 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.