SANTA CRUZ BIOTECHNOLOGY, INC.

SERINC5 siRNA (h): sc-91978

BACKGROUND

SERINC5 (serine incorporator 5) is a 423 amino acid multi-pass membrane protein that belongs to the TDE1 family. SERINC5 enhances the incorporation of serine into phosphatidylserine and sphingolipids, and may play a role in providing serine molecules for the formation of myelin glycosphingolipids in oligodendrocytes. Because SERINC proteins contain 11 transmembrane segments resembling amino acid transporters, SERINC5 may also function as an L-serine transporter by carrying serine molecules into the hydrophobic milieu of membrane lipid bilayers. The SERINC5 protein is highly expressed in placenta, skeletal muscle, spleen, thymus, testis and peripheral leukocyte, and is expressed weakly in the heart, liver and fetal brain. Existing as three alternatively spliced isoforms, the SERINC5 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 5q14.1.

REFERENCES

1. Xu, J., et al. 2003. Cloning and expression of a novel human C5orf12 gene*, a member of the TMS_TDE family. Mol. Biol. Rep. 30: 47-52.
2. Bossolasco, M., et al. 2006. Human TDE1, a TDE1/TMS family member, inhibits apoptosis *in vitro* and stimulates *in vivo* tumorigenesis. Oncogene 25: 4549-4558.
3. Silva, G.L., et al. 2007. Profiling meta-analysis reveals primarily gene coexpression concordance between systemic lupus erythematosus and rheumatoid arthritis. Ann. N.Y. Acad. Sci. 1110: 33-46.
4. Hirabayashi, Y., et al. 2008. Roles of l-serine and sphingolipid synthesis in brain development and neuronal survival. Prog. Lipid Res. 47: 188-203.
5. Palmer, K.L., et al. 2011. Genetic basis for daptomycin resistance in enterococci. Antimicrob. Agents Chemother. 55: 3345-3356.
6. French, L., et al. 2011. Relationships between gene expression and brain wiring in the adult rodent brain. PLoS Comput. Biol. 7: e1001049.

CHROMOSOMAL LOCATION

Genetic locus: SERINC5 (human) mapping to 5q14.1.

PRODUCT

SERINC5 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 SERINC5 shRNA Plasmid (h): sc-91978-SH and SERINC5 shRNA (h) Lentiviral Particles: sc-91978-V as alternate gene silencing products.

For independent verification of SERINC5 (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-91978A, sc-91978B and sc-91978C.

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

SERINC5 siRNA (h) is recommended for the inhibition of SERINC5 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 SERINC5 gene expression knockdown using RT-PCR Primer: SERINC5 (h)-PR: sc-91978-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.