



ABCC12 siRNA (m): sc-140759

BACKGROUND

ATP-binding cassette (ABC) transporters belong to an evolutionarily conserved family of proteins that catalyze the transport of molecules across extra- and intracellular membranes through the energy of ATP hydrolysis. ABC genes comprise seven subfamilies, designated ABC1, MDR/TAP, MRP, ALD, OABP, GCN20 and White. The complete human ABCC subfamily has 12 identified members (ABCC1-12), 9 from the multidrug resistance-like subgroup, 2 from the sulfonyleurea receptor subgroup and the CFTR gene. The human ABCC11 gene encodes a 1,382 amino acid protein. The human ABCC12 gene encodes a 1,359 amino acid protein. Transcripts of ABCC11 and ABCC12 genes are present in various adult human tissues, including liver, lung and kidney, and also in several fetal tissues. Their chromosomal localization, potential function and expression patterns identify them as candidates for paroxysmal kinesigenic choreoathetosis, a disorder characterized by attacks of involuntary movements and postures, chorea and dystonia. Other inherited disorders where ABC transporters are implicated include cystic fibrosis, neurological disease, retinal degeneration, cholesterol and bile transport defects, anemia and drug response.

REFERENCES

1. Tammur, J., Prades, C., Arnould, I., Rzhetsky, A., Hutchinson, A., Adachi, M., Schuetz, J.D., Swoboda, K.J., Ptacek, L.J., Rosier, M., Dean, M. and Allikmets, R. 2001. Two new genes from the human ATP-binding cassette transporter superfamily, ABCC11 and ABCC12, tandemly duplicated on chromosome 16q12. *Gene* 273: 89-96.
2. Yabuuchi, H., Shimizu, H., Takayanagi, S. and Ishikawa, T. 2001. Multiple splicing variants of two new human ATP-binding cassette transporters, ABCC11 and ABCC12. *Biochem. Biophys. Res. Commun.* 288: 933-939.
3. Bera, T.K., Lee, S., Salvatore, G., Lee, B., Pastan, I., Dean, M., Rzhetsky, A., Allikmets, R., O'Keefe, L., Dougan, S.T., Gabay, L., Raz, E., Shilo, B.Z. and DiNardo, S. 2001. MRP8, a new member of ABC transporter superfamily, identified by EST database mining and gene prediction program, is highly expressed in breast cancer. *Mol. Med.* 7: 509-516.
4. Dean, M., Rzhetsky, A., Allikmets, R., O'Keefe, L., Dougan, S.T., Gabay, L., Raz, E., Shilo, B.Z. and DiNardo, S. 2001. The human ATP-binding cassette (ABC) transporter superfamily. *Genome Res.* 11: 1156-1166.

CHROMOSOMAL LOCATION

Genetic locus: Abcc12 (mouse) mapping to 8 C3.

PRODUCT

ABCC12 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ABCC12 shRNA Plasmid (m): sc-140759-SH and ABCC12 shRNA (m) Lentiviral Particles: sc-140759-V as alternate gene silencing products.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ABCC12 siRNA (m) is recommended for the inhibition of ABCC12 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 μ M in 66 μ 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 ABCC12 gene expression knockdown using RT-PCR Primer: ABCC12 (m)-PR: sc-140759-PR (20 μ 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.