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ABCC11 shRNA (h) Lentiviral Particles: sc-43594-V

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), nine from the multidrug resistance-like subgroup, two from the sulfonyleurea receptor subgroup, and the CFTR gene. The human ABCC11 gene maps to chromosome 16q12.1 and encodes a 1,382 amino acid protein. The human ABCC12 gene maps to chromosome 16q12.1 and 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., et al. 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., et al. 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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: ABCC11 (human) mapping to 16q12.1.

PRODUCT

ABCC11 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see ABCC11 siRNA (h): sc-43594 and ABCC11 shRNA Plasmid (h): sc-43594-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

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

APPLICATIONS

ABCC11 shRNA (h) Lentiviral Particles is recommended for the inhibition of ABCC11 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

ABCC11 (S-19): sc-249895 is recommended as a control antibody for monitoring of ABCC11 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ABCC11 gene expression knockdown using RT-PCR Primer: ABCC11 (h)-PR: sc-43594-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ$ C and the extension temperature should be $68-72^\circ$ C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.