BACKGROUND

Histo-blood group ABO system transferase (NAGAT) is a member of the glycosyltransferase 6 family of proteins and the basis of the ABO blood group system. The histo-blood group ABO involves three carbohydrate antigens: A, B and H; the NAGAT protein functions as the basis of this group. A, B and AB individuals express a glycosyltransferase activity converting the H antigen to the A antigen (by addition of UDP-GalNAc) or to the B antigen (by addition of UDP-Gal), while O individuals do not express this glycosyltransferase activity. The B phenotype of NAGAT differs from the A form by a few residue substitutions, whereas the O form is a result of a single base frame-shift deletion in the N-terminal extremity of the gene. The NAGAT protein localizes to the Golgi apparatus and its conserved DXD motif functions in cofactor binding.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: ABO (human) mapping to 9q34.2.

PRODUCT

NAGAT 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 µl frozen stock containing 1.0 x 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 NAGAT siRNA (h): sc-61138 and NAGAT shRNA Plasmid (h): sc-61138-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.

APPLICATIONS

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

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NAGAT gene expression knockdown using RT-PCR Primer: NAGAT (h)-PR: sc-61138-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.

PROTOCOLS

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