**BACKGROUND**

Dopey-2, also known as C21orf5, is a 2,298 amino acid protein that is ubiquitously expressed with high levels found in the developing central nervous system where it is thought to play a role in protein trafficking between early endosomes and the late Golgi. Multiple isoforms of Dopey-2 exist due to alternative splicing events. The gene encoding Dopey-2 maps to human chromosome 21 and may be involved in the pathogenesis of Down syndrome. The smallest of the human chromosomes, chromosome 21 comprises about 1.5% of the human genome and contains nearly 300 genes and 47 million base pairs. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer’s disease, Jervell and Lange-Nielsen syndromes, and amyotrophic lateral sclerosis are also associated with chromosome 21. Translocations are found to occur between chromosome 21 and 8, and chromosome 21 and 12, in certain leukemias.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: DOPEY2 (human) mapping to 21q22.12.

**PRODUCT**

Dopey-2 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 10⁶ 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 Dopey-2 siRNA (h): sc-91467 and Dopey-2 shRNA Plasmid (h): sc-91467-SH as alternate gene silencing products.

**STORAGE**

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

**APPLICATIONS**

Dopey-2 shRNA (h) Lentiviral Particles is recommended for the inhibition of Dopey-2 expression in human cells.

**SUPPORT REAGENTS**

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 10⁶ 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 Dopey-2 gene expression knockdown using RT-PCR Primer: Dopey-2 (h)-PR: sc-91467-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.