



Dokey-1 siRNA (h): sc-77172

BACKGROUND

Dokey-1 is a 2,465 amino acid protein that is thought to be involved in protein trafficking between the late Golgi and early endosomes and may be involved in neurological alternations and mental retardation associated with Down syndrome. The gene encoding Dokey-1 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, *Porphyria cutanea tarda*, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

1. Pascon, R.C., et al. 2000. Morphogenesis in *Aspergillus nidulans* requires Dokey (DopA), a member of a novel family of leucine zipper-like proteins conserved from yeast to humans. *Mol. Microbiol.* 36: 1250-1264.
2. Vuoristo, M.M., et al. 2004. A stop codon mutation in COL11A2 induces exon skipping and leads to non-ocular Stickler syndrome. *Am. J. Med. Genet. A* 130: 160-164.
3. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. *Am. J. Hum. Genet.* 77: 582-595.
4. Rachidi, M., et al. 2005. C21orf5, a new member of Dokey family involved in morphogenesis, could participate in neurological alterations and mental retardation in Down syndrome. *DNA Res.* 12: 203-210.
5. Gillingham, A.K., et al. 2006. MON2, a relative of large ARF exchange factors, recruits Dop1 to the Golgi apparatus. *J. Biol. Chem.* 281: 2273-2280.
6. Safadi, S.S., et al. 2007. A disease state mutation unfolds the Parkin ubiquitin-like domain. *Biochemistry* 46: 14162-14169.
7. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. *Genes Chromosomes Cancer* 47: 159-164.

CHROMOSOMAL LOCATION

Genetic locus: DOPEY1 (human) mapping to 6q14.1.

PRODUCT

Dokey-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Dokey-1 shRNA Plasmid (h): sc-77172-SH and Dokey-1 shRNA (h) Lentiviral Particles: sc-77172-V as alternate gene silencing products.

For independent verification of Dokey-1 (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-77172A, sc-77172B and sc-77172C.

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

Dokey-1 siRNA (h) is recommended for the inhibition of Dokey-1 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 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 Dokey-1 gene expression knockdown using RT-PCR Primer: Dokey-1 (h)-PR: sc-77172-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.

PROTOCOLS

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