SANTA CRUZ BIOTECHNOLOGY, INC.

OIP106 siRNA (m): sc-61259

BACKGROUND

OIP106 (trafficking protein, kinesin-binding 1, TRAK1, OGT-interacting protein) contains 953 amino acids and is predominantly expressed in spinal cord tissue while exhibiting moderate expression in other tissues. OIP106, homolog of *Drosophila* Milton, interacts with the tetratricopeptide repeats of OGT and is O-glycosylated by OGT. Unlike other O-glycosylation substrates, however, OIP106 forms stable *in vitro* and *in vivo* associations with OGT, and interacts with RNA polymerase II while associating with OGT *in vivo*. Research suggests that OIP106 plays a crucial role in modulating the endocytic trafficking of $GABA_A$ receptors. OIP106 may expedite the targeting of endocytosed $GABA_A$ receptors back to the cell surface or block them from degradation; studies indicate that the protein may also be involved in directing newly synthesized $GABA_A$ receptors to the cell surface.

REFERENCES

1. Kikuno, R., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 197-205.
2. Beck, M., et al. 2002. Identification, molecular cloning, and characterization of a novel $GABA_A$ receptor-associated protein, GRIF-1. J. Biol. Chem. 277: 30079-30090.
3. Stowers, R.S., et al. 2002. Axonal transport of mitochondria to synapses depends on milton, a novel *Drosophila* protein. Neuron 36: 1063-1077.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608112. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Brickley, K., et al. 2005. GRIF-1 and OIP106, association *in vivo* and *in vitro* with kinesin. J. Biol. Chem. 280: 14723-14732.
6. Gilbert, S.L., et al. 2006. Trak1 mutation disrupts $GABA_A$ receptor homeostasis in hypertonic mice. Nat. Genet. 38: 245-250.

CHROMOSOMAL LOCATION

Genetic locus: Trak1 (mouse) mapping to 9 F4.

PRODUCT

OIP106 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OIP106 shRNA Plasmid (m): sc-61259-SH and OIP106 shRNA (m) Lentiviral Particles: sc-61259-V as alternate gene silencing products.

For independent verification of OIP106 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61259A, sc-61259B and sc-61259C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

OIP106 siRNA (m) is recommended for the inhibition of OIP106 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 µM in 66 µl. 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 OIP106 gene expression knockdown using RT-PCR Primer: OIP106 (m)-PR: sc-61259-PR (20 µl). 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.