

ZNF804A siRNA (h): sc-94548

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. ZNF804A (zinc finger protein 804A) is a 1,209 amino acid protein that contains one C₂H₂-type zinc finger. ZNF804A interacts with ataxin-1, a protein that is involved in RNA metabolism. The gene encoding ZNF804A maps to human chromosome 2q32.1, which consists of 237 million bases and encodes over 1,400 genes, making up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2.

REFERENCES

1. Yue, S., et al. 2001. The spinocerebellar ataxia type 1 protein, ataxin-1, has RNA-binding activity that is inversely affected by the length of its polyglutamine tract. *Hum. Mol. Genet.* 10: 25-30.
2. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
3. Lim, J., et al. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. *Cell* 125: 801-814.
4. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612282. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Dwyer, S., et al. 2010. No evidence that rare coding variants in ZNF804A confer risk of schizophrenia. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 153B: 1411-1416.
7. Balog, Z., et al. 2011. ZNF804A may be associated with executive control of attention. *Genes Brain Behav.* 10: 223-227.
8. Esslinger, C., et al. 2011. Cognitive state and connectivity effects of the genome-wide significant psychosis variant in ZNF804A. *Neuroimage* 54: 2514-2523.

CHROMOSOMAL LOCATION

Genetic locus: ZNF804A (human) mapping to 2q32.1.

PRODUCT

ZNF804A 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 ZNF804A shRNA Plasmid (h): sc-94548-SH and ZNF804A shRNA (h) Lentiviral Particles: sc-94548-V as alternate gene silencing products.

For independent verification of ZNF804A (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-94548A, sc-94548B and sc-94548C.

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

ZNF804A siRNA (h) is recommended for the inhibition of ZNF804A 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 ZNF804A gene expression knockdown using RT-PCR Primer: ZNF804A (h)-PR: sc-94548-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.