SANTA CRUZ BIOTECHNOLOGY, INC.

DYX1C1 siRNA (m): sc-60563

BACKGROUND

The gene encoding DYX1C1 maps in the 15q21.3 region, which is disrupted by a translocation t(2;15)(q11;q21) and segregates with dyslexia. Two sequence changes in DYX1C1, including one involving the translation initiation sequence and an Elk-1 transcription factor binding site (-3G→A) and a codon (1249G→T), introduce a premature stop codon and truncate the protein by four amino acids. DYX1C1 encodes a nuclear tetratricopeptide repeat domain protein that is dynamically regulated in brain. In human brain, DYX1C1 protein localizes to a fraction of cortical neurons and white matter glial cells. It is also expressed in lung, kidney and testis.

REFERENCES

1. Taipale, M., et al. 2003. A candidate gene for developmental dyslexia encodes a nuclear tetratricopeptide repeat domain protein dynamically regulated in brain. Proc. Natl. Acad. Sci. USA 100: 11553-11558.
2. Scerri, T.S., et al. 2004. Putative functional alleles of DYX1C1 are not associated with dyslexia susceptibility in a large sample of sibling pairs from the UK. J. Med. Genet. 41: 853-857.
3. Ylisaukko-Oja, T., et al. 2004. Family-based association study of DYX1C1 variants in autism. Eur. J. Hum. Genet. 13: 127-130.
4. Marino, C., et al. 2005. A family-based association study does not support DYX1C1 on 15q21.3 as a candidate gene in developmental dyslexia. Eur. J. Hum. Genet. 13: 491-499.
5. Fisher, S.E. and Francks, C. 2006. Genes, cognition and dyslexia: learning to read the genome. Trends Cogn. Sci. 10: 250-257.
6. McGrath, L.M., et al. 2006. Breakthroughs in the search for dyslexia candidate genes. Trends Mol. Med. 12: 333-341.

CHROMOSOMAL LOCATION

Genetic locus: Dyx1c1 (mouse) mapping to 9 D.

PRODUCT

DYX1C1 siRNA (m) is a pool of 2 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 DYX1C1 shRNA Plasmid (m): sc-60563-SH and DYX1C1 shRNA (m) Lentiviral Particles: sc-60563-V as alternate gene silencing products.

For independent verification of DYX1C1 (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-60563A and sc-60563B.

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.

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

DYX1C1 siRNA (m) is recommended for the inhibition of DYX1C1 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 DYX1C1 gene expression knockdown using RT-PCR Primer: DYX1C1 (m)-PR: sc-60563-PR (20 µl, 598 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.