SANTA CRUZ BIOTECHNOLOGY, INC.

3110043O21Rik siRNA (m): sc-108907

BACKGROUND

3110043O21Rik, also known as protein C9orf72 homolog, is a 420 amino acid mouse protein that is homologous to human C9orf72. C9orf72 is a 481 amino acid cytoplasmic and nuclear protein that exists as two alternatively spliced isoforms. Both isoforms are widely expressed, including expression in kidney, lung, liver, heart, testis, cerebellum, frontal cortex and lymphoblasts. C9orf72 is also expressed in the cytoplasm of neurons from post mortem brain tissue, and in the nucleus of fibroblasts. Defects in C9orf72 result in frontotemporal dementia and/or amyotrophic lateral sclerosis (FTDALS), an autosomal dominant neurodegenerative disorder with adult onset. Frontotemporal dementia is characterized by frontal and temporal lobe atrophy associated with neuronal loss, gliosis and dementia. Amyotrophic lateral sclerosis is characterized by the death of motor neurons in the brain, brainstem and spinal cord, resulting in fatal paralysis.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2011. Johns Hopkins University, Baltimore, MD. MIM Number: 614260. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Snowden, J.S., et al. 2012. Distinct clinical and pathological characteristics of frontotemporal dementia associated with C9ORF72 mutations. Brain 135: 693-708.
5. Chiò, A., et al. 2012. Clinical characteristics of patients with familial amyotrophic lateral sclerosis carrying the pathogenic GGGGCC hexanucleotide repeat expansion of C9ORF72. Brain 135: 784-793.
6. Whitwell, J.L., et al. 2012. Neuroimaging signatures of frontotemporal dementia genetics: C9ORF72, τ, progranulin and sporadics. Brain 135: 794-806.
7. Traynor, B.J. 2012. Road to the chromosome 9p-linked ALS/FTD locus. J. Neurol. Neurosurg. Psychiatr. 83: 356-357.
8. Khan, B.K., et al. 2012. Atypical, slowly progressive behavioural variant frontotemporal dementia associated with C9ORF72 hexanucleotide expansion. J. Neurol. Neurosurg. Psychiatr. 83: 358-364.
9. Majounie, E., et al. 2012. Frequency of the C9orf72 hexanucleotide repeat expansion in patients with amyotrophic lateral sclerosis and frontotemporal dementia: a cross-sectional study. Lancet Neurol. 11: 323-330.

CHROMOSOMAL LOCATION

Genetic locus: 3110043O21Rik (mouse) mapping to 4 A5.

PROTOCOLS

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

PRODUCT

3110043O21Rik 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 3110043O21Rik shRNA Plasmid (m): sc-108907-SH and 3110043O21Rik shRNA (m) Lentiviral Particles: sc-108907-V as alternate gene silencing products.

For independent verification of 3110043O21Rik (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-108907A, sc-108907B and sc-108907C.

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

3110043O21Rik siRNA (m) is recommended for the inhibition of 3110043O21Rik 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 3110043O21Rik gene expression knockdown using RT-PCR Primer: 3110043O21Rik (m)-PR: sc-108907-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.