SANTA CRUZ BIOTECHNOLOGY, INC.

FRA10AC1 siRNA (m): sc-140381

BACKGROUND

C10orf4 (chromosome 10 open reading frame 4), also known as FRA10A or FRA10AC1, is a 315 amino acid nuclear protein that is expressed strongly in kidney, liver, heart, brain and skeletal muscle. Defects in the gene encoding C10orf4 are characterized by an expansion of a polymorphic CGG repeat within the 5'-UTR of the gene; an event that is thought to cause folate-sensitive fragile site FRA10A expression. Expression of this mutated FRA10A protein may be associated with tumorigenesis, neurological disorders and mental retardation. C10orf4 is believed to be conserved between species. Five isoforms of C10orf4, all of which differ in their C-termini, are expressed due to alternative splicing events.

REFERENCES

1. Yu, Y., et al. 2001. Gene expression profiling in human fetal liver and identification of tissue- and developmental-stage-specific genes through compiled expression profiles and efficient cloning of full-length cDNAs. Genome Res. 11: 1392-1403.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608866. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Sarafidou, T., et al. 2004. Folate-sensitive fragile site FRA10A is due to an expansion of a CGG repeat in a novel gene, FRA10AC1, encoding a nuclear protein. Genomics 84: 69-81.
4. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
5. Wang, Y.H. 2006. Chromatin structure of human chromosomal fragile sites. Cancer Lett. 232: 70-78.

CHROMOSOMAL LOCATION

Genetic locus: Fra10ac1 (mouse) mapping to 19 C3.

PRODUCT

FRA10AC1 siRNA (m) is a target-specific 19-25 nt siRNA 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 FRA10AC1 shRNA Plasmid (m): sc-140381-SH and FRA10AC1 shRNA (m) Lentiviral Particles: sc-140381-V as alternate gene silencing 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

FRA10AC1 siRNA (m) is recommended for the inhibition of FRA10AC1 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.

GENE EXPRESSION MONITORING

FRA10AC1 (732.1): sc-81858 is recommended as a control antibody for monitoring of FRA10AC1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FRA10AC1 gene expression knockdown using RT-PCR Primer: FRA10AC1 (m)-PR: sc-140381-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.

PROTOCOLS

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