SANTA CRUZ BIOTECHNOLOGY, INC.

MACROD2 siRNA (h): sc-72705

BACKGROUND

MACROD2 (MACRO domain containing 2), also known as C20orf133, dJ631M13.5 or RP11-189J1.1, is a 448 amino acid protein expressed in brain, skeletal muscle, thymus, pancreas, prostate, liver, kidney and lung. As a result of alternative splicing, six MACROD2 isoforms exist. MACROD2 mutations may be responsible for the development of Kabuki syndrome, a rare congenital mental retardation and the gene encoding MACROD2 maps to human chromosome 20p12.1. Comprising approximately 2% of the human genome, chromosome 20 contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

REFERENCES

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4. Maas, N.M., et al. 2007. The C20orf133 gene is disrupted in a patient with Kabuki syndrome. J. Med. Genet. 44: 562-569.
5. Elghezal, H., et al. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4—KCNQ2 genes loci. Eur. J. Med. Genet. 50: 441-445.
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7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611567. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Kuniba, H., et al. 2008. Lack of C20orf133 and FLRT3 mutations in 43 patients with Kabuki syndrome in Japan. J. Med. Genet. 45: 479-480.

CHROMOSOMAL LOCATION

Genetic locus: MACROD2 (human) mapping to 20p12.1.

PRODUCT

MACROD2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MACROD2 shRNA Plasmid (h): sc-72705-SH and MACROD2 shRNA (h) Lentiviral Particles: sc-72705-V as alternate gene silencing products.

For independent verification of MACROD2 (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-72705A, sc-72705B and sc-72705C.

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

MACROD2 siRNA (h) is recommended for the inhibition of MACROD2 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 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 MACROD2 gene expression knockdown using RT-PCR Primer: MACROD2 (h)-PR: sc-72705-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.