SANTA CRUZ BIOTECHNOLOGY, INC.

DSCR 2 siRNA (m): sc-143175

BACKGROUND

An extra copy of chromosome 21, the smallest human autosome chromosome, results in Down syndrome. The Down Syndrome critical region (DSCR) maps specifically to chromosme 21q22.2 and includes several genes which are likely associated with the pathogenesis of Down syndrome. DSCR 2 (down syndrome critical region protein 2), also known as Proteasome assembly chaperone 1, is a 288 amino acid protein that acts as a 20S proteasome-assembling chaperone and forms heterodimers with 20S proteasome precursors. Interestingly, DSCR 2 inhibits transcription of PPARβ and co-expression of these two proteins leads to the formation of DSCR 2 aggregates. With expression in adult colon, leukocytes, brain, testis and breast, DSCR 2 is localized to the endoplasmic reticulum and cytoplasm. There are two isoforms of DSCR 2 that exist as a result of alternative splicing events.

REFERENCES

1. Vidal-Taboada, J.M., et al. 1998. Identification and characterization of a new gene from human chromosome 21 between markers D21S343 and D21S268 encoding a leucine-rich protein. Biochem. Biophys. Res. Commun. 250: 547-554.
2. Vidal-Taboada, J.M., et al. 2000. Down syndrome critical region gene 2: expression during mouse development and in human cell lines indicates a function related to cell proliferation. Biochem. Biophys. Res. Commun. 272: 156-163.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605296. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Possik, P.A., et al. 2004. DSCR2, a Down syndrome critical region protein, is localized to the endoplasmic reticulum of mammalian cells. Eur. J. Histochem. 48: 267-272.
5. Vesa, J., et al. 2005. Molecular and cellular characterization of the Down syndrome critical region protein 2. Biochem. Biophys. Res. Commun. 328: 235-242.
6. Hirano, Y., et al. 2005. A heterodimeric complex that promotes the assembly of mammalian 20S proteasomes. Nature 437: 1381-1385.

CHROMOSOMAL LOCATION

Genetic locus: Psmg1 (mouse) mapping to 16 C4.

PRODUCT

DSCR 2 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 DSCR 2 shRNA Plasmid (m): sc-143175-SH and DSCR 2 shRNA (m) Lentiviral Particles: sc-143175-V as alternate gene silencing products.

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

DSCR 2 siRNA (m) is recommended for the inhibition of DSCR 2 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 DSCR 2 gene expression knockdown using RT-PCR Primer: DSCR 2 (m)-PR: sc-143175-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.