

WBSR16 siRNA (h): sc-89899

BACKGROUND

Williams-Beuren syndrome (WBS) is an autosomal dominant genetic condition that is characterized by physical, cognitive and behavioral traits. The physical traits associated with WBS include facial dysmorphology, vascular stenoses, growth deficiencies, dental anomalies and neurologic and musculoskeletal abnormalities. WBSR16 (Williams-Beuren syndrome chromosomal region 16 protein), also known as RCC1-like G exchanging factor-like protein, is a 464 amino acid protein that contains six RCC1 repeats. Ubiquitously expressed, WBSR16 is encoded by a gene located in the Williams-Beuren syndrome (WBS) critical region. It is suggested that haploinsufficiency of WBSR16 may be the cause of certain cardiovascular and musculo-skeletal abnormalities.

REFERENCES

1. Pagon, R.A., Bennett, F.C., LaVeck, B., Stewart, K.B. and Johnson, J. 1987. Williams syndrome: features in late childhood and adolescence. *Pediatrics* 80: 85-91.
2. Morris, C.A., Demsey, S.A., Leonard, C.O., Dilts, C. and Blackburn, B.L. 1988. Natural history of Williams syndrome: physical characteristics. *J. Pediatr.* 113: 318-326.
3. Dilts, C.V., Morris, C.A. and Leonard, C.O. 1990. Hypothesis for development of a behavioral phenotype in Williams syndrome. *Am. J. Med. Genet. Suppl.* 6: 126-131.
4. Lashkari, A., Smith, A.K. and Graham, J.M. 1999. Williams-Beuren syndrome: an update and review for the primary physician. *Clin. Pediatr.* 38: 189-208.
5. Bellugi, U., Lichtenberger, L., Mills, D., Galaburda, A. and Korenberg, J.R. 1999. Bridging cognition, the brain and molecular genetics: evidence from Williams syndrome. *Trends Neurosci.* 22: 197-207.
6. Merla, G., Ucla, C., Guipponi, M. and Raymond, A. 2002. Identification of additional transcripts in the Williams-Beuren syndrome critical region. *Hum. Genet.* 110: 429-438.
7. Hillier, L.W., Fulton, R.S., Fulton, L.A., Graves, T.A., Pepin, K.H., Wagner-McPherson, C., Layman, D., Maas, J., Jaeger, S., Walker, R., Wylie, K., Sekhon, M., Becker, M.C., O'Laughlin, M.D., Schaller, M.E., et al. 2003. The DNA sequence of human chromosome 7. *Nature* 424: 157-164.
8. Gerhard, D.S., Wagner, L., Feingold, E.A., Shenmen, C.M., Grouse, L.H., Schuler, G., Klein, S.L., Old, S., Rasooly, R., Good, P., Guyer, M., Peck, A.M., Derge, J.G., Lipman, D., Collins, F.S., Jang, W., Sherry, S., Feolo, M., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). *Genome Res.* 14: 2121-2127.

CHROMOSOMAL LOCATION

Genetic locus: WBSR16 (human) mapping to 7q11.23.

PROTOCOLS

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

PRODUCT

WBSR16 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see WBSR16 shRNA Plasmid (h): sc-89899-SH and WBSR16 shRNA (h) Lentiviral Particles: sc-89899-V as alternate gene silencing products.

For independent verification of WBSR16 (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-89899A, sc-89899B and sc-89899C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

WBSR16 siRNA (h) is recommended for the inhibition of WBSR16 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 μ M in 66 μ l. 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 WBSR16 gene expression knockdown using RT-PCR Primer: WBSR16 (h)-PR: sc-89899-PR (20 μ l). 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.