SANTA CRUZ BIOTECHNOLOGY, INC.

WBSCR22 siRNA (h): sc-89457

BACKGROUND

Williams-Beuren syndrome (WBS) is a developmental disorder caused by a hemizygous microdeletion on chromosome 7q11.23. WBS is an autosomal dominant genetic condition that is characterized by abnormal 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. Mild retardation, weakness in visual-spatial skills, anxiety and a short attention span are typical cognitive and behavioral traits of WBS patients. The WBSCR22 gene is located within the WBS deletion and may contribute to the developmental symptoms found in WBS because of a loss of the encoded transcription factor. WBSCR22 (Williams-Beuren syndrome chromosomal region 22 protein), also known as HUSSY-3, PP3381 or WBMT, is a 281 amino acid nuclear methyltransferase that may act on DNA. WBSCR22 is highly expressed in kidney, heart and skeletal muscle and has lower levels of expression in lung, spleen, liver and testis.

REFERENCES

1. Morris, C.A., et al. 1988. Natural history of Williams syndrome: physical characteristics. J. Pediatr. 113: 318-326.
2. Pober, B.R. and Dykens, E.M. 1996. Child Aldolesc. Psychiatr. Clin. North Am. 5: 929-943.
3. Lashkari, A., et al. 1999. Williams-Beuren syndrome: an update and review for the primary physician. Clin. Pediatr. 38: 189-208.
4. Bellugi, U., et al. 1999. Bridging cognition, the brain and molecular genetics: evidence from Williams syndrome. Trends Neurosci. 22: 197-207.
5. Tassabehji, M., et al. 1999. A transcription factor involved in skeletal muscle gene expression is deleted in patients with Williams syndrome. Eur. J. Hum. Genet. 7: 737-747.
6. Doll, A. and Grzeschik, K.H. 2001. Characterization of two novel genes, WBSCR20 and WBSCR22, deleted in Williams-Beuren syndrome. Cytogenet. Cell Genet. 95: 20-27.

CHROMOSOMAL LOCATION

Genetic locus: WBSCR22 (human) mapping to 7q11.23.

PRODUCT

WBSCR22 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 WBSCR22 shRNA Plasmid (h): sc-89457-SH and WBSCR22 shRNA (h) Lentiviral Particles: sc-89457-V as alternate gene silencing products.

For independent verification of WBSCR22 (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-89457A, sc-89457B and sc-89457C.

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

WBSCR22 siRNA (h) is recommended for the inhibition of WBSCR22 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.

GENE EXPRESSION MONITORING

WBSCR22 (F-2): sc-376714 is recommended as a control antibody for monitoring of WBSCR22 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 WBSCR22 gene expression knockdown using RT-PCR Primer: WBSCR22 (h)-PR: sc-89457-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.