

Ripply1 siRNA (h): sc-91371

BACKGROUND

Ripply1 is a 201 amino acid nuclear protein that participates in somitogenesis and is required for rostrocaudal polarity in somites. Ripply1 also plays a role in terminating the segmentation of the presomitic mesoderm by repressing transcription of various segmental patterning genes. Expressed in anterior presomitic mesoderm and somites during E9.5, and intercostal muscles, diaphragm and tongue at E16.5, Ripply1 contains a WRPW motif which it utilizes to bind TLE proteins. The gene encoding Ripply1 maps to human chromosome X, which consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently, as males carry a single X chromosome.

REFERENCES

1. Gianfrancesco, F., Sanges, R., Esposito, T., Tempesta, S., Rao, E., Rappold, G., Archidiacono, N., Graves, J.A., Forabosco, A. and D'Urso, M. 2001. Differential divergence of three human pseudoautosomal genes and their mouse homologs: implications for sex chromosome evolution. *Genome Res.* 11: 2095-2100.
2. Bernardino-Sgherri, J., Flagiello, D. and Dutrillaux, B. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. *Cytogenet. Genome Res.* 99: 85-91.
3. Deeb, S.S. 2005. The molecular basis of variation in human color vision. *Clin. Genet.* 67: 369-377.
4. Kawamura, A., Koshida, S., Hijikata, H., Ohbayashi, A., Kondoh, H. and Takada, S. 2005. Groucho-associated transcriptional repressor ripply1 is required for proper transition from the presomitic mesoderm to somites. *Dev. Cell.* 9: 735-744.
5. Bojesen, A., Kristensen, K., Birkebaek, N.H., Fedder, J., Mosekilde, L., Bennett, P., Laurberg, P., Frystyk, J., Flyvbjerg, A., Christiansen, J.S. and Gravholt, C.H. 2006. The metabolic syndrome is frequent in Klinefelter's syndrome and is associated with abdominal obesity and hypogonadism. *Diabetes Care* 29: 1591-1598.
6. Maggio, M.C., Liotta, A., De Grazia, E., Cimador, M., Di Pace, R. and Corsello, G. 2007. Polycystic ovary and gonadoblastoma in Turner's syndrome. *Minerva Pediatr.* 59: 397-401.
7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 300575. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Helderma-van den Enden, A.T., de Jong, R., den Dunnen, J.T., Houwing-Duistermaat, J.J., Kneppers, A.L., Ginjaar, H.B., Breuning, M.H. and Bakker, E. 2009. Recurrence risk due to germ line mosaicism: Duchenne and Becker muscular dystrophy. *Clin. Genet.* 75: 465-472.
9. Kasper, C.K. and Buzin, C.H. 2009. Mosaicism and haemophilia. *Haemophilia*. E-published.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: RIPPLY1 (human) mapping to Xq22.3.

PRODUCT

Ripply1 siRNA (h) is a pool of 2 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 Ripply1 shRNA Plasmid (h): sc-91371-SH and Ripply1 shRNA (h) Lentiviral Particles: sc-91371-V as alternate gene silencing products.

For independent verification of Ripply1 (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-91371A and sc-91371B.

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

Ripply1 siRNA (h) is recommended for the inhibition of Ripply1 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 Ripply1 gene expression knockdown using RT-PCR Primer: Ripply1 (h)-PR: sc-91371-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.