

OLFML2A siRNA (h): sc-92941

BACKGROUND

OLFML2A (olfactomedin-like protein 2A), also known as photomedin-1, is a 652 amino acid secreted protein that contains one olfactomedin-like domain and exists as three alternatively spliced isoforms. OLFML2A can also form a homodimer and is known to bind chondroitin sulfate E and heparin. The gene encoding OLFML2A maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

REFERENCES

1. Zhuang, H., Kosboth, M., Lee, P., Rice, A., Driscoll, D.J., Zori, R., Narain, S., Lyons, R., Satoh, M., Sobel, E. and Reeves, W.H. 2006. Lupus-like disease and high interferon levels corresponding to trisomy of the type I interferon cluster on chromosome 9p. *Arthritis Rheum.* 54: 1573-1579.
2. Burmeister, T., Schwartz, S., Taubald, A., Jost, E., Lipp, T., Schneller, F., Diedrich, H., Thomssen, H., Mey, U.J., Eucker, J., Rieder, H., Gökbuget, N., Hoelzer, D. and Thiel, E. 2007. Atypical Bcr-Abl mRNA transcripts in adult acute lymphoblastic leukemia. *Haematologica* 92: 1699-1702.
3. Cottin, V., Dupuis-Girod, S., Lesca, G. and Cordier, J.F. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (Rendu-Osler disease). *Respiration* 74: 361-378.
4. Zeitz, M.J., Marella, N.V., Malyavantham, K.S., Goetze, S., Bode, J., Raska, I. and Berezney, R. 2009. Organization of the amplified type I interferon gene cluster and associated chromosome regions in the interphase nucleus of human osteosarcoma cells. *Chromosome Res.* 17: 305-319.
5. Gold-von Simson, G., Goldberg, J.D., Rolnitzky, L.M., Mull, J., Leyne, M., Voustianiouk, A., Slangenaupt, S.A. and Axelrod, F.B. 2009. Kinetin in familial dysautonomia carriers: implications for a new therapeutic strategy targeting mRNA splicing. *Pediatr. Res.* 65: 341-346.
6. Axelrod, F.B., Hiltz, M.J., Berlin, D., Yau, P.L., Javier, D., Sweat, V., Bruehl, H. and Convit, A. 2010. Neuroimaging supports central pathology in familial dysautonomia. *J. Neurol.* 257: 198-206.

CHROMOSOMAL LOCATION

Genetic locus: OLFML2A (human) mapping to 9q33.3.

PRODUCT

OLFML2A 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 OLFML2A shRNA Plasmid (h): sc-92941-SH and OLFML2A shRNA (h) Lentiviral Particles: sc-92941-V as alternate gene silencing products.

For independent verification of OLFML2A (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-92941A, sc-92941B and sc-92941C.

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

OLFML2A siRNA (h) is recommended for the inhibition of OLFML2A 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 OLFML2A gene expression knockdown using RT-PCR Primer: OLFML2A (h)-PR: sc-92941-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.

PROTOCOLS

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