

CYS1 siRNA (h): sc-94561

BACKGROUND

CYS1 (cystin-1), also known as cilia-associated protein or ck, is a 145 amino acid protein localized to cytoplasm and cilium. CYS1 is expressed at highest levels in liver and kidney, with lower levels found in brain, lung and heart. Defects in the gene that encodes CYS1 are a cause of polycystic kidney disease. The gene that encodes CYS1 maps to human chromosome 2. As the second largest human chromosome, chromosome 2 makes up approximately 8% of the human genome and contains 237 million bases encoding over 1,400 genes. A number of genetic diseases are linked to genes on chromosome 2, including Harlequin ichthyosis, sitosterolemia and Alstrom syndrome.

REFERENCES

- Hou, X., Mrug, M., Yoder, B.K., Lefkowitz, E.J., Kremmidiotis, G., D'Eustachio, P., Beier, D.R. and Guay-Woodford, L.M. 2002. Cystin, a novel cilia-associated protein, is disrupted in the cpk mouse model of polycystic kidney disease. *J. Clin. Invest.* 109: 533-540.
- Fliegau, M., Fröhlich, C., Horvath, J., Olbrich, H., Hildebrandt, F. and Omer, H. 2003. Identification of the human CYS1 gene and candidate gene analysis in Boichis disease. *Pediatr. Nephrol.* 18: 498-505.
- Thomas, A.C., Cullup, T., Norgett, E.E., Hill, T., Barton, S., Dale, B.A., Sprecher, E., Sheridan, E., Taylor, A.E., Wilroy, R.S., DeLozier, C., Burrows, N., Goodyear, H., Fleckman, P., Stephens, K.G., Mehta, L., et al. 2006. ABCA12 is the major harlequin ichthyosis gene. *J. Invest. Dermatol.* 126: 2408-2413.
- Akiyama, M., Sakai, K., Sato, T., McMillan, J.R., Goto, M., Sawamura, D. and Shimizu, H. 2007. Compound heterozygous ABCA12 mutations including a novel nonsense mutation underlie harlequin ichthyosis. *Dermatology* 215: 155-159.
- Marshall, J.D., Hinman, E.G., Collin, G.B., Beck, S., Cerqueira, R., Maffei, P., Milan, G., Zhang, W., Wilson, D.I., Hearn, T., Tavares, P., Vettor, R., Veronese, C., Martin, M., So, W.V., Nishina, P.M. and Naggert, J.K. 2007. Spectrum of ALMS1 variants and evaluation of genotype-phenotype correlations in Alström syndrome. *Hum. Mutat.* 28: 1114-1123.
- Rooryck, C., Souakri, N., Cailley, D., Bouron, J., Goizet, C., Delrue, M.A., Marlin, S., Lacombe, F.D. and Arveiler, B. 2010. Array-CGH analysis of a cohort of 86 patients with oculoauriculovertebral spectrum. *Am. J. Med. Genet. A* 152A: 1984-1989.
- You, Y.H., Song, Y.Y., Meng, F.L., He, L.H., Zhang, M.J., Yan, X.M. and Zhang, J.Z. 2010. Time-series gene expression profiles in AGS cells stimulated with *Helicobacter pylori*. *World J. Gastroenterol.* 16: 1385-1396.

CHROMOSOMAL LOCATION

Genetic locus: CYS1 (human) mapping to 2p25.1.

PROTOCOLS

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

PRODUCT

CYS1 siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CYS1 shRNA Plasmid (h): sc-94561-SH and CYS1 shRNA (h) Lentiviral Particles: sc-94561-V as alternate gene silencing 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 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

CYS1 siRNA (h) is recommended for the inhibition of CYS1 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 CYS1 gene expression knockdown using RT-PCR Primer: CYS1 (h)-PR: sc-94561-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.