SANTA CRUZ BIOTECHNOLOGY, INC.

Norpeg siRNA (h): sc-75947

BACKGROUND

Norpeg, also known as Ankycorbin or RAI14 (retinoic acid induced 14), is a 980 amino acid protein that localizes to the cytoplasm, the cytoskeleton and the cell cortex, and contains 7 ANK repeats. Expressed at high levels in testis, muscle and placenta, and at lower levels in liver, brain, lung, heart and intestine, Norpeg is thought to play a role in the maintenance and organization of the actin cytoskeleton. Norpeg exists as three alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 5. With 181 million base pairs encoding around 1,000 genes, chromosome 5 comprises about 6% of human genomic DNA. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm on chromosome 5 is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Nagase, T., Kikuno, R., Ishikawa, K.I., Hirosawa, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 65-73.
2. Peng, Y.F., Mandai, K., Sakisaka, T., Okabe, N., Yamamoto, Y., Yokoyama, S., Mizoguchi, A., Shiozaki, H., Monden, M. and Takai, Y. 2000. Ankycorbin: a novel Actin cytoskeleton-associated protein. Genes Cells 5: 1001-1008.
3. Kutty, R.K., Kutty, G., Samuel, W., Duncan, T., Bridges, C.C., El-Sherbeeny, A., Nagineni, C.N., Smith, S.B. and Wiggert, B. 2001. Molecular characterization and developmental expression of Norpeg, a novel gene induced by retinoic acid. J. Biol. Chem. 276: 2831-2840.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606586. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Yuan, W., Zheng, Y., Huo, R., Lu, L., Huang, X.Y., Yin, L.L., Li, J.M., Zhou, Z.M. and Sha, J.H. 2005. Expression of a novel alternative transcript of the novel retinal pigment epithelial cell gene Norpeg in human testes. Asian J. Androl. 7: 277-288.
6. Kutty, R.K., Chen, S., Samuel, W., Vijayasarathy, C., Duncan, T., Tsai, J.Y., Fariss, R.N., Carper, D., Jaworski, C. and Wiggert, B. 2006. Cell density-dependent nuclear/cytoplasmic localization of Norpeg (RAI14) protein. Biochem. Biophys. Res. Commun. 345: 1333-1341.
7. Kutty, R.K., Samuel, W., Chen, S., Vijayasarathy, C., Dun, Y., Mysona, B., Wiggert, B. and Smith, S.B. 2006. Immunofluorescence analysis of the expression of Norpeg (Rai14) in retinal Müller and ganglion cells. Neurosci. Lett. 404: 294-298.

CHROMOSOMAL LOCATION

Genetic locus: RAI14 (human) mapping to 5p13.2.

PROTOCOLS

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

PRODUCT

Norpeg 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 Norpeg shRNA Plasmid (h): sc-75947-SH and Norpeg shRNA (h) Lentiviral Particles: sc-75947-V as alternate gene silencing products.

For independent verification of Norpeg (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-75947A, sc-75947B and sc-75947C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Norpeg gene expression knockdown using RT-PCR Primer: Norpeg (h)-PR: sc-75947-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.