SANTA CRUZ BIOTECHNOLOGY, INC.

KCNQ1DN siRNA (h): sc-96256

BACKGROUND

KCNQ1DN (KCNQ1 downstream neighbor protein), also known as BWRT (Beckwith-Wiedemann region transcript protein) or HSA404617, is a 68 amino acid protein that is encoded by a gene mapping to human chromosome 11p15.4. The gene encoding KCNQ1DN is located within the critical region for Wilms tumor-2 (WT2). WT2 is a disorder characterized by maternal-specific loss of heterozygosity within a region on chromosome 11 that encodes multiple imprinted genes, which are expressed in a manner that is parent-of-origin specific. KCNQ1DN, an imprinted gene, has reduced expression in cases of WT2, and is a candidate for involvement in Wilm's tumorigenesis. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are also associated with defects to chromosome 11-encoded genes.

REFERENCES

1. Engemann, S., Strödicke, M., Paulsen, M., Franck, O., Reinhardt, R., Lane, N., Reik, W. and Walter, J. 2000. Sequence and functional comparison in the Beckwith-Wiedemann region: implications for a novel imprinting centre and extended imprinting. Hum. Mol. Genet. 9: 2691-2706.
2. Xin, Z., Soejima, H., Higashimoto, K., Yatsuki, H., Zhu, X., Satoh, Y., Masaki, Z., Kaneko, Y., Jinno, Y., Fukuzawa, R., Hata, J. and Mukai, T. 2000. A novel imprinted gene, KCNQ1DN, within the WT2 critical region of human chromosome 11p15.5 and its reduced expression in Wilms' tumors. J. Biochem. 128: 847-853.
3. Zhu, Y., Zhang, W., Huo, Z., Zhang, Y., Xia, Y., Li, B., Kong, X. and Hu, L. 2007. A novel locus for maternally inherited human gingival fibromatosis at chromosome 11p15. Hum. Genet. 121: 113-123.
4. Basta-Jovanovic, G., Gvozdenovic, E., Dimitrijevic, I., Brasanac, D., Jovanovic, M., Kalezic, N., Baralic, I., Radojevic-Skodric, S. and Arsic, D. 2008. Immunohistochemical analysis of γ catenin in Wilms' tumors. Fetal Pediatr. Pathol. 27: 63-70.
5. Koch, C.M. and Wagner, W. 2011. Epigenetic-aging-signature to determine age in different tissues. Aging 3: 1018-1027.
6. Onyango, P. and Feinberg, A.P. 2011. A nucleolar protein, H19 opposite tumor suppressor (HOTS), is a tumor growth inhibitor encoded by a human imprinted H19 antisense transcript. Proc. Natl. Acad. Sci. USA 108: 16759-16764.

CHROMOSOMAL LOCATION

Genetic locus: KCNQ1DN (human) mapping to 11p15.4.

PRODUCT

KCNQ1DN 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KCNQ1DN shRNA Plasmid (h): sc-96256-SH and KCNQ1DN shRNA (h) Lentiviral Particles: sc-96256-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 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

KCNQ1DN siRNA (h) is recommended for the inhibition of KCNQ1DN 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.

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.