

ANKRD13B siRNA (h): sc-93649

BACKGROUND

Ankyrins are membrane adaptor molecules that play important roles in coupling integral membrane proteins to the spectrin-based cytoskeleton network. Mutations of ankyrin genes can lead to severe genetic diseases, such as fatal cardiac arrhythmias and hereditary spherocytosis. ANKRD13B (ankyrin repeat domain 13B) is a 626 amino acid protein that contains two ANK repeats and three ubiquitin-interacting motif (UIM) repeats. Conserved in canine, bovine, mouse and rat, ANKRD13B exists as two alternatively spliced isoforms. The gene that encodes ANKRD13B maps to human chromosome 17q11.2, which makes up over 2.5% of the human genome, with about 81 million bases encoding over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. BRCA1 is recognized as a genetic determinant of early onset breast cancer. Chromosome 17 is also linked to neurofibromatosis, dysregulated Schwann cell growth, Alexander disease, Birt-Hogg-Dube syndrome and Canavan disease.

REFERENCES

1. Welsch, M.J., Kronic, A. and Medenica, M.M. 2005. Birt-Hogg-Dube syndrome. *Int. J. Dermatol.* 44: 668-673.
2. Isensee, J. and Ruiz Noppinger, P. 2007. Sexually dimorphic gene expression in mammalian somatic tissue. *Gend. Med. B.* S75-S95.
3. Al-Dirbashi, O.Y., Rashed, M.S., Al-Qahtani, K., Al-Mokhadab, M.A., Kurdi, W. and Al-Sayed M.A. 2007. Quantification of N-acetylaspartic acid in urine by LC-MS/MS for the diagnosis of Canavan disease. *J. Inherit. Metab. Dis.* 30: 612.
4. Tai, Y.C., Domchek, S., Parmigiani, G. and Chen, S. 2007. Breast cancer risk among male BRCA1 and BRCA2 mutation carriers. *J. Natl. Cancer Inst.* 99: 1811-1814.
5. Farrell, C.J. and Plotkin, S.R. 2007. Genetic causes of brain tumors: neurofibromatosis, tuberous sclerosis, von Hippel-Lindau, and other syndromes. *Neurol. Clin.* 25: 925-946.
6. Yan, J., Jiang, J., Lim, C.A., Wu, Q., Ng, H.H. and Chin, K.C. 2007. BLIMP1 regulates cell growth through repression of p53 transcription. *Proc. Natl. Acad. Sci. USA* 104: 1841-1846.
7. Murakami, N., Tsuchiya, T., Kanazawa, N., Tsujino, S. and Nagai, T. 2008. Novel deletion mutation in GFAP gene in an infantile form of Alexander disease. *Pediatr. Neurol.* 38: 50-52.
8. Domae, S., Nakamura, Y., Nakamura, Y., Uenaka, A., Wada, H., Nakata, M., Oka, M., Kishimoto, K., Tsukamoto, G., Yoshihama, Y., Matsuoka, J., Gochi, A., Kohno, S., Saika, T., Sasaki, A., Nakayama, E. and Ono, T. 2009. Identification of CCDC62-2 as a novel cancer/testis antigen and its immunogenicity. *Int. J. Cancer* 124: 2347-2352.
9. Wanna, W., Rexroad, C.E. and Yao, J. 2010. Identification of a functional splice variant of 14-3-3E1 in rainbow trout. *Mar. Biotechnol.* 12: 70-80.

CHROMOSOMAL LOCATION

Genetic locus: ANKRD13B (human) mapping to 17q11.2.

PRODUCT

ANKRD13B 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 ANKRD13B shRNA Plasmid (h): sc-93649-SH and ANKRD13B shRNA (h) Lentiviral Particles: sc-93649-V as alternate gene silencing products.

For independent verification of ANKRD13B (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-93649A, sc-93649B and sc-93649C.

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

ANKRD13B siRNA (h) is recommended for the inhibition of ANKRD13B 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 ANKRD13B gene expression knockdown using RT-PCR Primer: ANKRD13B (h)-PR: sc-93649-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.