SANTA CRUZ BIOTECHNOLOGY, INC.

ANKRD42 siRNA (m): sc-141101

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 lead to severe genetic diseases such as fatal cardiac arrhythmias and hereditary spherocytosis. ANKRD42 (ankyrin repeat domain 42), also known as SARP, is a 389 amino acid protein that exists as two alternatively spliced isoforms and contains nine ANK repeats. Found at highest levels in testis and sperm, ANKRD42 is ubiquitously expressed and is encoded by a gene located on human chromosome 11q14.1. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Davis, J.Q., et al. 1984. Brain ankyrin. A membrane-associated protein with binding sites for spectrin, tubulin, and the cytoplasmic domain of the erythrocyte anion channel. J. Biol. Chem. 259: 13550-13559.
2. Bennett, V., et al. 1985. Ankyrin and synapsin: spectrin-binding proteins associated with brain membranes. J. Cell. Biochem. 29: 157-169.
3. Hryniewicz-Jankowska, A., et al. 2002. Ankyrins, multifunctional proteins involved in many cellular pathways. Folia Histochem. Cytobiol. 40: 239-249.
4. Hopitzan, A.A., et al. 2006. Molecular evolution of ankyrin: gain of function in vertebrates by acquisition of an obscurin/titin-binding-related domain. Mol. Biol. Evol. 23: 46-55.
5. Cai, X., et al. 2006. Molecular evolution of the ankyrin gene family. Mol. Biol. Evol. 23: 550-558.
6. Browne, G.J., et al. 2007. SARP, a new alternatively spliced protein phosphatase 1 and DNA interacting protein. Biochem. J. 402: 187-196.
7. Bhuiyan, Z.A., et al. 2008. An intronic mutation leading to incomplete skipping of exon-2 in KCNQ1 rescues hearing in Jervell and Lange-Nielsen syndrome. Prog. Biophys. Mol. Biol. 98: 319-327.

CHROMOSOMAL LOCATION

Genetic locus: Ankrd42 (mouse) mapping to 7 E1.

PRODUCT

ANKRD42 siRNA (m) 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 ANKRD42 shRNA Plasmid (m): sc-141101-SH and ANKRD42 shRNA (m) Lentiviral Particles: sc-141101-V as alternate gene silencing products.

For independent verification of ANKRD42 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-141101A, sc-141101B and sc-141101C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

ANKRD42 siRNA (m) is recommended for the inhibition of ANKRD42 expression in mouse 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 ANKRD42 gene expression knockdown using RT-PCR Primer: ANKRD42 (m)-PR: sc-141101-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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