SANTA CRUZ BIOTECHNOLOGY, INC.

ANKRD27 siRNA (m): sc-141087

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. ANKRD27 (ankyrin repeat domain 27), also known as VARP or VPS9 domain-containing protein, is a 1,050 amino acid protein that contains 11 ANK proteins and one VPS9 domain. Encoded by a gene that maps to human chromosome 19q13.11, ANKRD27 is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish and mosquito. ANKRD27 participates in GTPase activator functions, guanyl-nucleotide exchange factor activity and protein binding. Localizing to cytoplasm, ANKRD27 exhibits specificity for early endosomes in the perinuclear region and may regulate endosome dynamics. ANKRD27 interacts with Rab 5A and Rab 21, with a preference for Rab 21, and may be a Rab 21 guanine exchange factor. ANKRD27 may also function as a Rab 32/Rab 38 effector, controlling TRP1 trafficking in melanocytes.

REFERENCES

1. Davies, B.A., et al. 2005. Ubiquitin regulation of the Rab 5 family GEF Vps9p. Methods Enzymol. 403: 561-583.
2. Spinola, M., et al. 2006. Association of the PDCD5 locus with lung cancer risk and prognosis in smokers. J. Clin. Oncol. 24: 1672-1678.
3. Tsuzuki, S., et al. 2007. Genetic abnormalities involved in t(12;21) TEL-AML1 acute lymphoblastic leukemia: analysis by means of array-based comparative genomic hybridization. Cancer Sci. 98: 698-706.
4. Chen, J., et al. 2007. Increases in expression of 14-3-3 η and 14-3-3 ζ transcripts during neuroprotection induced by Δ^9-tetrahydrocannabinol in AF5 cells. J. Neurosci. Res. 85: 1724-1733.
5. Goh, T., et al. 2007. VPS9a, the common activator for two distinct types of Rab5 GTPases, is essential for the development of *Arabidopsis thaliana.* Plant Cell 19: 3504-3515.
6. Webster, J.A., et al. 2009. Genetic control of human brain transcript expression in Alzheimer disease. Am. J. Hum. Genet. 84: 445-458.
7. Tamura, K., et al. 2009. VARP is a novel Rab 32/38-binding protein that regulates Tyrp1 trafficking in melanocytes. Mol. Biol. Cell 20: 2900-2908.
8. Colicelli, J. 2010. Signal transduction: RABGEF1 fingers RAS for ubiquitination. Curr. Biol. 20: R630-R632.
9. Hodgkinson, C.A., et al. 2010. Genome-wide association identifies candidate genes that influence the human electroencephalogram. Proc. Natl. Acad. Sci. USA 107: 8695-8700.

CHROMOSOMAL LOCATION

Genetic locus: Ankrd27 (mouse) mapping to 7 B2.

PROTOCOLS

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

PRODUCT

ANKRD27 siRNA (m) 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 ANKRD27 shRNA Plasmid (m): sc-141087-SH and ANKRD27 shRNA (m) Lentiviral Particles: sc-141087-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

ANKRD27 siRNA (m) is recommended for the inhibition of ANKRD27 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 ANKRD27 gene expression knockdown using RT-PCR Primer: ANKRD27 (m)-PR: sc-141087-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.