SANTA CRUZ BIOTECHNOLOGY, INC.

ANKFN1 siRNA (m): sc-105062

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. The fibronectin type III domain (FNIII) is a small autonomous folding unit which occurs in many mammalian proteins involving in ligand binding. Tandem repeats of the FNIII domain contain binding sites for DNA, heparin and the cell surface. ANKFN1 (ankyrin repeat and fibronectin type-III domain-containing protein 1) is a 763 amino acid protein that contains two ANK repeats and one fibronectin type-III domain.

REFERENCES

1. Bennett, V., et al. 1985. Ankyrin and synapsin: spectrin-binding proteins associated with brain membranes. J. Cell. Biochem. 29: 157-169.
2. Koide, A., et al. 1998. The fibronectin type III domain as a scaffold for novel binding proteins. J. Mol. Biol. 284: 1141-1151.
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. Siggers, K., et al. 2007. Conformational dynamics in loop swap mutants of homologous fibronectin type III domains. Biophys. J. 93: 2447-2456.
7. Zheng, Z., et al. 2007. Fank1 is a testis-specific gene encoding a nuclear protein exclusively expressed during the transition from the meiotic to the haploid phase of spermatogenesis. Gene Expr. Patterns 7: 777-783.

CHROMOSOMAL LOCATION

Genetic locus: Ankfn1 (mouse) mapping to 11 C.

PRODUCT

ANKFN1 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 ANKFN1 shRNA Plasmid (m): sc-105062-SH and ANKFN1 shRNA (m) Lentiviral Particles: sc-105062-V as alternate gene silencing products.

For independent verification of ANKFN1 (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-105062A, sc-105062B and sc-105062C.

PROTOCOLS

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

ANKFN1 siRNA (m) is recommended for the inhibition of ANKFN1 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 ANKFN1 gene expression knockdown using RT-PCR Primer: ANKFN1 (m)-PR: sc-105062-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.