SANTA CRUZ BIOTECHNOLOGY, INC.

ANKMY1 siRNA (m): sc-141071

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. ANKMY1 (ankyrin repeat and MYND domain containing 1), also known as ZMYND13 or TSAL1, is a 941 amino acid protein that contains seven ANK repeats, three MORN repeats and one MYND-type zinc finger. MORN repeats were first identified in junctophilins, cytoplasmic proteins involved in junctions between the plasma membrane and the ER/SR membrane. The presence of MORN repeats suggests that ANKMY1 may interact with the plasma membrane. The MYND domain consists of a cluster of cysteine and histidine residues, arranged with an invariant spacing to form a potential zinc-binding motif which may be involved in protein-protein interactions. Three isoforms of ANKMY1 exists due to alternative splicing events.

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. Ma, H., et al. 2006. MORN motifs in plant PIPKs are involved in the regulation of subcellular localization and phospholipid binding. Cell Res. 16: 466-478.
5. 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.
6. Cai, X., et al. 2006. Molecular evolution of the ankyrin gene family. Mol. Biol. Evol. 23: 550-558.
7. Mecklenburg, K.L. 2007. *Drosophila* retinophilin contains MORN repeats and is conserved in humans. Mol. Genet. Genomics 277: 481-489.

CHROMOSOMAL LOCATION

Genetic locus: Ankmy1 (mouse) mapping to 1 D.

PRODUCT

ANKMY1 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 ANKMY1 shRNA Plasmid (m): sc-141071-SH and ANKMY1 shRNA (m) Lentiviral Particles: sc-141071-V as alternate gene silencing products.

For independent verification of ANKMY1 (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-141071A, sc-141071B and sc-141071C.

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

ANKMY1 siRNA (m) is recommended for the inhibition of ANKMY1 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 ANKMY1 gene expression knockdown using RT-PCR Primer: ANKMY1 (m)-PR: sc-141071-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.

PROTOCOLS

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