SANTA CRUZ BIOTECHNOLOGY, INC.

ZNRF1 siRNA (m): sc-77013

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. ZNRF1 (zinc and ring finger 1), also known as NIN283, is a 227 amino acid protein that contains one RING-type zinc finger and localizes to the lysosome and the endosome, as well as to cytoplasmic vesicles and the peripheral membrane. Expressed primarily in nervous system tissue, but also present in testis and thymus, ZNRF1 functions as an E3 ubiquitin-protein ligase that is thought to play a role in the establishment and maintenance of neuronal plasticity. Multiple isoforms of ZNRF1 exist due to alternative splicing events.

REFERENCES

1. Borden, K.L. and Freemont, P.S. 1996. The RING finger domain: a recent example of a sequence-structure family. Curr. Opin. Struct. Biol. 6: 395-401.
2. Sun, Y., Tan, M., Duan, H. and Swaroop, M. 2001. SAG/ROC/Rbx/Hrt, a zinc RING finger gene family: molecular cloning, biochemical properties, and biological functions. Antioxid. Redox Signal. 3: 635-650.
3. Araki, T., Nagarajan, R. and Milbrandt, J. 2001. Identification of genes induced in peripheral nerve after injury. Expression profiling and novel gene discovery. J. Biol. Chem. 276: 34131-34141.
4. Araki, T. and Milbrandt, J. 2003. ZNRF proteins constitute a family of presynaptic E3 ubiquitin ligases. J. Neurosci. 23: 9385-9394.
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CHROMOSOMAL LOCATION

Genetic locus: Znrf1 (mouse) mapping to 8 E1.

PRODUCT

ZNRF1 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 ZNRF1 shRNA Plasmid (m): sc-77013-SH and ZNRF1 shRNA (m) Lentiviral Particles: sc-77013-V as alternate gene silencing products.

For independent verification of ZNRF1 (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-77013A, sc-77013B and sc-77013C.

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

ZNRF1 siRNA (m) is recommended for the inhibition of ZNRF1 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 ZNRF1 gene expression knockdown using RT-PCR Primer: ZNRF1 (m)-PR: sc-77013-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.