SANTA CRUZ BIOTECHNOLOGY, INC.

NYNRIN siRNA (m): sc-141555

BACKGROUND

NYNRIN (NYN domain and retroviral integrase catalytic domain-containing protein) is a 1,898 amino acid multi-pass membrane protein. NYNRIN contains one integrase catalytic domain and two leucine-rich repeats (LRR). Sequence and structural analyses suggest that the integrase catalytic domain is inactive.The NYN domain shares a common protein fold with two other previously characterized groups of nucleases, the PIN and FLAP/5' to 3' exonuclease superfamilies. Other conserved residues shared by the NYN, PIN, and FLAP/5' to 3' domains are likely to play critical roles in sensing the substrate and positioning the catalytic residues in the right conformation. The gene encoding NYNRIN may have arisen from the fusion of a cellular gene with retroviral sequences prior to the marsupial-eutherian split. Two isoforms of NYNRIN are produced by alternative splicing events.

REFERENCES

1. Shen, B., Nolan, J.P., Sklar, L.A. and Park, M.S. 1997. Functional analysis of point mutations in human flap endonuclease-1 active site. Nucleic Acids Res. 25: 3332-3338.
2. Clissold, P.M. and Ponting, C.P. 2000. PIN domains in nonsense-mediated mRNA decay and RNAi. Curr. Biol. 10: R888-R890.
3. Kobe, B. and Kajava, A.V. 2001. The leucine-rich repeat as a protein recognition motif. Curr. Opin. Struct. Biol. 11: 725-732.
4. Arcus, V.L., Bäckbro, K., Roos, A., Daniel, E.L. and Baker, E.N. 2004. Distant structural homology leads to the functional characterization of an archaeal PIN domain as an exonuclease. J. Biol. Chem. 279: 16471-16478.
5. Enkhbayar, P., Kamiya, M., Osaki, M., Matsumoto, T. and Matsushima, N. 2004. Structural principles of leucine-rich repeat (LRR) proteins. Proteins 54: 394-403.
6. Anantharaman, V. and Aravind, L. 2006. The NYN domains: novel predicted RNAses with a PIN domain-like fold. RNA Biol. 3: 18-27.

CHROMOSOMAL LOCATION

Genetic locus: Nynrin (mouse) mapping to 14 C3.

PRODUCT

NYNRIN 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 NYNRIN shRNA Plasmid (m): sc-141555-SH and NYNRIN shRNA (m) Lentiviral Particles: sc-141555-V as alternate gene silencing products.

For independent verification of NYNRIN (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-141555A, sc-141555B and sc-141555C.

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

NYNRIN siRNA (m) is recommended for the inhibition of NYNRIN 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 NYNRIN gene expression knockdown using RT-PCR Primer: NYNRIN (m)-PR: sc-141555-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.