SANTA CRUZ BIOTECHNOLOGY, INC.

NPA1 siRNA (m): sc-150042

BACKGROUND

NPA1 (nucleolar pre-ribosomal-associated protein 1), also known as URB1, is a 2,271 amino acid protein that is homologous to the *S. cerevisiae* protein URB1. The *S. cerevisiae* URB1 is a nucleolar protein involved in the normal accumulation of 25S and 5.8S rRNAs and may also play a role in the biosynthesis of the 60S ribosomal unit. Also localized to the nucleolus, NPA1 is thought to have the same functions as *S. cerevisea* URB1. NPA1 is expressed at highest levels in kidney, heart, brain, lung, spleen, testis, pancreas, skeletal muscle, ovary, and prostate, with lowest levels in small intestine and thymus.

REFERENCES

1. Nagase, T., Ishikawa, K., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1998. Prediction of the coding sequences of unidentified human genes. IX. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 31-39.
2. Slavov, D., Hattori, M., Sakaki, Y., Rosenthal, A., Shimizu, N., Minoshima, S., Kudoh, J., Yaspo, M.L., Ramser, J., Reinhardt, R., Reimer, C., Clancy, K., Rynditch, A. and Gardiner, K. 2000. Criteria for gene identification and features of genome organization: analysis of 6.5 Mb of DNA sequence from human chromosome 21. Gene 247: 215-232.
3. Nakajima, D., Okazaki, N., Yamakawa, H., Kikuno, R., Ohara, O. and Nagase, T. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. DNA Res. 9: 99-106.
4. Scherl, A., Coute, Y., Deon, C., Calle, A., Kindbeiter, K., Sanchez, J.C., Greco, A., Hochstrasser, D. and Diaz, J.J. 2002. Functional proteomic analysis of human nucleolus. Mol. Biol. Cell 13: 4100-4109.
5. Dez, C., Froment, C., Noaillac-Depeyre, J., Monsarrat, B., Caizergues-Ferrer, M. and Henry, Y. 2004. Npa1p, a component of very early pre-60S ribosomal particles, associates with a subset of small nucleolar RNPs required for peptidyl transferase center modification. Mol. Cell. Biol. 24: 6324-6337.
6. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608865. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Urb1 (mouse) mapping to 16 C3.3.

PRODUCT

NPA1 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 NPA1 shRNA Plasmid (m): sc-150042-SH and NPA1 shRNA (m) Lentiviral Particles: sc-150042-V as alternate gene silencing products.

For independent verification of NPA1 (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-150042A, sc-150042B and sc-150042C.

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

NPA1 siRNA (m) is recommended for the inhibition of NPA1 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 NPA1 gene expression knockdown using RT-PCR Primer: NPA1 (m)-PR: sc-150042-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.