SANTA CRUZ BIOTECHNOLOGY, INC.

Nup155 siRNA (h): sc-92002

BACKGROUND

The nuclear pore complex (NPC) mediates bidirectional macromolecular traffic between the nucleus and cytoplasm in eukaryotic cells and is comprised of more than 100 different subunits. Many of the subunits belong to a family called nucleoporins (Nups), which are characterized by the presence of O-linked-N-acetylglucosamine moieties and a distinctive pentapeptide repeat (XFXFG). Nup155 (nucleoporin 155 kDa), also known as N155, is a 1,391 amino acid protein that localizes to the nucleus and is a functional component of the NPC. Expressed in a variety of tissues, including lung, brain, placenta, liver, heart, skeletal muscle and pancreas, Nup155 plays a key role in the binding and translocation of proteins between the nucleus and the cytoplasm. Nup155 exists as two alternatively spliced isoforms and is subject to phosphorylation, an event which may play a role in the disassembly of the NPC during mitosis.

REFERENCES

1. Görlich, D. and Mattaj, I.W. 1996. Nucleocytoplasmic transport. Science 271: 1513-1518.
2. Zhang, X., et al. 1999. Localization of a human nucleoporin 155 gene (NUP155) to the 5p13 region and cloning of its cDNA. Genomics 57: 144-151.
3. Zhang, X., et al. 2002. Genomic organization, transcript variants and comparative analysis of the human nucleoporin 155 (NUP155) gene. Gene 288: 9-18.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 606694. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Rayala, H.J., et al. 2004. The mRNA export factor human Gle1 interacts with the nuclear pore complex protein Nup155. Mol. Cell. Proteomics 3: 145-155.
6. Zhang, X., et al. 2008. Mutation in nuclear pore component NUP155 leads to atrial fibrillation and early sudden cardiac death. Cell 135: 1017-1027.

CHROMOSOMAL LOCATION

Genetic locus: NUP155 (human) mapping to 5p13.2.

PRODUCT

Nup155 siRNA (h) 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 Nup155 shRNA Plasmid (h): sc-92002-SH and Nup155 shRNA (h) Lentiviral Particles: sc-92002-V as alternate gene silencing products.

For independent verification of Nup155 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-92002A, sc-92002B and sc-92002C.

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

Nup155 siRNA (h) is recommended for the inhibition of Nup155 expression in human 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 Nup155 gene expression knockdown using RT-PCR Primer: Nup155 (h)-PR: sc-92002-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.