SANTA CRUZ BIOTECHNOLOGY, INC.

gp210 siRNA (h): sc-75164

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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). gp210, also known as Nup210 (nucleoporin 210 kDa) or POM210, is a 1,887 amino acid single-pass type I membrane protein that localizes to both the endoplasmic reticulum and to the nucleus, specifically within the NPC. Expressed ubiquitously with highest expression in pancreas, testis, lung, ovary and liver, gp210 functions as a nucleoporin that is capable of dimerization and is essential for the assembly, fusion and structural integrity of the NPC. gp210 exists as multiple alternatively spliced isoforms and is subject to post-translational phosphorylation.

REFERENCES

1. Favreau, C., et al. 1996. Cell cycle-dependent phosphorylation of nucleoporins and nuclear pore membrane protein gp210. Biochemistry 35: 8035-8044.
2. Bodoor, K., et al. 1999. Function and assembly of nuclear pore complex proteins. Biochem. Cell Biol. 77: 321-329.
3. Pilpel, Y., et al. 2003. Polyproline type II conformation in the C-terminal domain of the nuclear pore complex protein gp210. Biochemistry 42: 3519-3526.
4. Cohen, M., et al. 2003. Nuclear pore protein gp210 is essential for viability in HeLa cells and *Caenorhabditis elegans*. Mol. Biol. Cell 14: 4230-4237.
5. Olsson, M., et al. 2004. Despite WT1 binding sites in the promoter region of human and mouse nucleoporin glycoprotein 210, WT1 does not influence expression of gp210. J. Negat. Results Biomed. 3: 7.
6. Nakamura, M., et al. 2005. Antibody titer to gp210-C terminal peptide as a clinical parameter for monitoring primary biliary cirrhosis. J. Hepatol. 42: 386-392.
7. Nakamura, M., et al. 2006. Increased expression of nuclear envelope gp210 antigen in small bile ducts in primary biliary cirrhosis. J. Autoimmun. 26: 138-145.

CHROMOSOMAL LOCATION

Genetic locus: NUP210 (human) mapping to 3p25.1.

PRODUCT

gp210 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 gp210 shRNA Plasmid (h): sc-75164-SH and gp210 shRNA (h) Lentiviral Particles: sc-75164-V as alternate gene silencing products.

For independent verification of gp210 (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-75164A, sc-75164B and sc-75164C.

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

gp210 siRNA (h) is recommended for the inhibition of gp210 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 gp210 gene expression knockdown using RT-PCR Primer: gp210 (h)-PR: sc-75164-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.