SANTA CRUZ BIOTECHNOLOGY, INC.

GOLPH4 siRNA (m): sc-62394

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Golgi apparatus is an organelle that plays an essential role in the modification and sorting of proteins that are exported from the endoplasmic reticulum (ER). GOLPH4, also known as GOLIM4 (Golgi integral membrane protein 4), GIMPC, GPP130 or P138, is a 696 amino acid single-pass type II membrane protein that localizes to the Golgi stack membrane and the *cis* and medial Golgi cisternae. One of many Golgi-resident proteins, GOLPH4 mediates protein trafficking along the late endosome-bypass pathway, thereby regulating protein transport from the early endosome to the Golgi. GOLPH4 has a large C-terminal luminal domain with potential N- and O-glycosylation sites, as well as a short N-terminal tail with a phosphorylation and myristoylation site.

REFERENCES

1. Linstedt, A.D., et al. 1997. Sequence and overexpression of GPP130/GIMPc: evidence for saturable pH-sensitive targeting of a type II early Golgi membrane protein. Mol. Biol. Cell 8: 1073-1087.
2. Bachert, C., et al. 2001. Lumenal endosomal and Golgi-retrieval determinants involved in pH-sensitive targeting of an early Golgi protein. Mol. Biol. Cell 12: 3152-3160.
3. Doi, K., et al. 2002. Expression of Golgi membrane protein p138 is cell cycle-independent and dissociated from centrosome duplication. Cell Struct. Funct. 27: 117-125.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606805. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Oka, T., et al. 2004. The COG and COPI complexes interact to control the abundance of GEARs, a subset of Golgi integral membrane proteins. Mol. Biol. Cell 15: 2423-2435.
6. Natarajan, R. and Linstedt, A.D. 2004. A cycling *cis*-Golgi protein mediates endosome-to-Golgi traffic. Mol. Biol. Cell 15: 4798-4806.
7. Starr, T., et al. 2007. Both post-Golgi and intra-Golgi cycling affect the distribution of the Golgi phosphoprotein GPP130. Traffic 8: 1265-1279.

CHROMOSOMAL LOCATION

Genetic locus: Golim4 (mouse) mapping to 3 E3.

PRODUCT

GOLPH4 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 GOLPH4 shRNA Plasmid (m): sc-62394-SH and GOLPH4 shRNA (m) Lentiviral Particles: sc-62394-V as alternate gene silencing products.

For independent verification of GOLPH4 (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-62394A, sc-62394B and sc-62394C.

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

GOLPH4 siRNA (m) is recommended for the inhibition of GOLPH4 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 GOLPH4 gene expression knockdown using RT-PCR Primer: GOLPH4 (m)-PR: sc-62394-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.