SANTA CRUZ BIOTECHNOLOGY, INC.

golgin 97 siRNA (m): sc-75163

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The Power to Question

BACKGROUND

The GRIP family member, golgin 97, is a *trans*-Golgi network peripheral membrane protein with an extensive coiled-coil structure (67% α-helical content) and a C-terminal GRIP domain. Golgin 97 localizes exclusively on the cytoplasmic face of the Golgi and can form homodimers. Binding of golgin 97 to the Golgi membrane is mediated by the G protein family member, Arl1. Golgin 97 acts as an essential player to the cell in the form of a tethering molecule associating with tubulovesicular carriers during the trafficking from the *trans*-Golgi network to the recycling endosome and/or early endosome. During poxvirus infection, golgin 97 accumulates at the site of viral replication and is incorporated into virions. It associates with the insoluble fraction of the virus core protein, playing a significant role in virus replication and maturation of the virus membrane and core protein. Golgin 97 takes on a rod-like shape and, although it seemingly lacks a transmembrane domain, it protrudes from the surface of the virion envelope.

REFERENCES

1. Yoshino, A., et al. 2003. A role for GRIP domain proteins and/or their ligands in structure and function of the *trans*-Golgi network. J. Cell Sci. 116: 4441-4454.
2. Yoshimura, S., et al. 2004. Dynamics of Golgi matrix proteins after the blockage of ER to Golgi transport. J. Biochem. 135: 201-216.
3. Lu, L., et al. 2004. Autoantigen golgin 97, an effector of Arl1 GTPase, participates in traffic from the endosome to the *trans*-Golgi network. Mol. Biol. Cell 15: 4426-4443.
4. Derby, M.C., et al. 2004. Mammalian GRIP domain proteins differ in their membrane binding properties and are recruited to distinct domains of the TGN. J. Cell Sci. 117: 5865-5874.
5. Norkin, L.C. and Kuksin, D. 2005. The caveolae-mediated SV40 entry pathway bypasses the Golgi complex en route to the endoplasmic reticulum. Virol. J. 2: 38.

CHROMOSOMAL LOCATION

Genetic locus: Golga1 (mouse) mapping to 2 B.

PRODUCT

golgin 97 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 golgin 97 shRNA Plasmid (m): sc-75163-SH and golgin 97 shRNA (m) Lentiviral Particles: sc-75163-V as alternate gene silencing products.

For independent verification of golgin 97 (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-75163A, sc-75163B and sc-75163C.

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

golgin 97 siRNA (m) is recommended for the inhibition of golgin 97 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.

GENE EXPRESSION MONITORING

golgin 97 (CDFX): sc-59820 is recommended as a control antibody for monitoring of golgin 97 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor golgin 97 gene expression knockdown using RT-PCR Primer: golgin 97 (m)-PR: sc-75163-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.