SANTA CRUZ BIOTECHNOLOGY, INC.

golgin 84 siRNA (h): sc-92331

BACKGROUND

Golgin 84, also known as GOLGA5 (Golgi autoantigen, subfamily A, member 5), RFG5 (RET-fused gene 5 protein) or GOLIM5, is a ubiquitously expressed single-pass type II coiled-coil membrane protein. Localizing to the Golgi apparatus and predominantly found on membranes at the cis side of the Golgi stack, golgin 84 participates in the maintenance of Golgi structure and the formation of Golgi stacks and ribbons. The depletion of golgin 84 leads to fragmentation of the Golgi ribbon and reduced efficiency in protein transport. In addition, golgin 84 binds to active Rab 1 and associates with CASP (an isoform of CDP) in a golgin-tethering complex that is believed to play a role in intra-Golgi retrograde transport. During mitosis, golgin 84 is highly phosphorylated. Chromosomal translocations involving the gene encoding golgin 84 have been associated with cancer tissues. The chimeric proteins produced by this translocation are known as Ret-II and PTC5.

REFERENCES

1. Ishizaka, Y., et al. 1989. Activation of the Ret-II oncogene without a sequence encoding a transmembrane domain and transforming activity of two Ret-II oncogene products differing in carboxy-termini due to alternative splicing. Oncogene 4: 789-794.
2. Klugbauer, S., et al. 1998. Detection of a novel type of Ret rearrangement (PTC5) in thyroid carcinomas after Chernobyl and analysis of the involved Ret-fused gene RFG5. Cancer Res. 58: 198-203.
3. Bascom, R.A., et al. 1999. Identification and characterization of golgin 84, a novel Golgi integral membrane protein with a cytoplasmic coiled-coil domain. J. Biol. Chem. 274: 2953-2962.
4. Diao, A., et al. 2003. The coiled-coil membrane protein golgin 84 is a novel Rab effector required for Golgi ribbon formation. J. Cell Biol. 160: 201-212.
5. Malsam, J., et al. 2005. Golgin tethers define subpopulations of COPI vesicles. Science 307: 1095-1098.
6. Satoh, A., et al. 2005. Tethering assays for COPI vesicles mediated by golgins. Methods Enzymol. 404: 125-134.

CHROMOSOMAL LOCATION

Genetic locus: GOLGA5 (human) mapping to 14q32.12.

PRODUCT

golgin 84 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 golgin 84 shRNA Plasmid (h): sc-92331-SH and golgin 84 shRNA (h) Lentiviral Particles: sc-92331-V as alternate gene silencing products.

For independent verification of golgin 84 (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-92331A, sc-92331B and sc-92331C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 84 siRNA (h) is recommended for the inhibition of golgin 84 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.

GENE EXPRESSION MONITORING

golgin 84 (D-5): sc-365337 is recommended as a control antibody for monitoring of golgin 84 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 84 gene expression knockdown using RT-PCR Primer: golgin 84 (h)-PR: sc-92331-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.