SANTA CRUZ BIOTECHNOLOGY, INC.

Giantin siRNA (m): sc-60686

BACKGROUND

GM130, a *cis*-Golgi matrix protein, interacts specifically with p115 and provides a membrane docking site. Both GM130 and p115 are involved in vesicle tethering to Golgi membranes. The protein p115 also binds p400, alternatively called Giantin. Giantin, the majority of whose mass projects into the cytoplasm, is involved in the docking of COPI vesicles via p115 to the Golgi membrane. Giantin, which also is known as macrogolgin or Golgi complex-associated protein, is involved in cross-bridge formation in the Golgi complex. Giantin, which can form a homodimer, is a single-pass type I membrane protein that is an antigen in Sjoegren syndrome and in chronic rheumatoid arthritis.

REFERENCES

1. Sohda, M., et al. 1994. Molecular cloning and sequence analysis of a human 372 kDa protein localized in the Golgi complex. Biochem. Biophys. Res. Commun. 205: 1399-1408.
2. Seelig, H.P., et al. 1994. Molecular genetic analyses of a 376 kDa Golgi complex membrane protein (Giantin) Mol. Cell. Biol. 14: 2564-2576.
3. Stinton, L.M., et al. 2004. Autoantibodies to protein transport and messenger RNA processing pathways: endosomes, lysosomes, Golgi complex, proteasomes, assemblyosomes, exosomes and GW bodies. Clin. Immunol. 110: 30-44.
4. Ungewickell, A., et al. 2004. The inositol polyphosphate 5-phosphatase OCRL associates with endosomes that are partially coated with Clathrin. Proc. Natl. Acad. Sci. USA 101: 13501-13506.
5. Sahashi, K., et al. 2004. Progressive myopathy with circulating autoantibody against Giantin in the Golgi apparatus. Neurology 62: 1891-1893.
6. Beard, M., et al. 2005. A cryptic Rab1-binding site in the p115 tethering protein. J. Biol. Chem. 280: 25840-25848.
7. Malsam, J., et al. 2005. Golgin tethers define subpopulations of COPI vesicles. Science 307: 1095-1098.

CHROMOSOMAL LOCATION

Genetic locus: Golgb1 (mouse) mapping to 16 B3.

PRODUCT

Giantin 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 Giantin shRNA Plasmid (m): sc-60686-SH and Giantin shRNA (m) Lentiviral Particles: sc-60686-V as alternate gene silencing products.

For independent verification of Giantin (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-60686A, sc-60686B and sc-60686C.

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

Giantin siRNA (m) is recommended for the inhibition of Giantin 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 Giantin gene expression knockdown using RT-PCR Primer: Giantin (m)-PR: sc-60686-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Petrosyan, A., et al. 2015. Downregulation of the small GTPase SAR1A: a key event underlying alcohol-induced Golgi fragmentation in hepatocytes. Sci. Rep. 5: 17127.
2. Casey, C.A., et al. 2016. Study of ethanol-induced Golgi disorganization reveals the potential mechanism of alcohol-impaired N-glycosylation. Alcohol. Clin. Exp. Res. 40: 2573-2590.

RESEARCH USE

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