

GOLPH4 (E-18): sc-55944

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., Mehta, A., Suhan, J., Reggio, H. and Hauri, H.P. 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., Lee, T.H. and Linstedt, A.D. 2001. Luminal endosomal and Golgi-retrieval determinants involved in pH-sensitive targeting of an early Golgi protein. *Mol. Biol. Cell.* 12: 3152-3160.
3. Doi, K., Noma, S., Yamao, F., Goko, H. and Yagura, T. 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. Natarajan, R. and Linstedt, A.D. 2004. A cycling *cis*-Golgi protein mediates endosome-to-Golgi traffic. *Mol. Biol. Cell* 15: 4798-4806.
6. Oka, T., Ungar, D., Hughson, F.M. and Krieger, M. 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.
7. Starr, T., Forsten-Williams, K. and Storrie, B. 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 (human) mapping to 3q26.2; Golim4 (mouse) mapping to 3 E3.

SOURCE

GOLPH4 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GOLPH4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55944 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GOLPH4 (E-18) is recommended for detection of GOLPH4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GOLPH4 (E-18) is also recommended for detection of GOLPH4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GOLPH4 siRNA (h): sc-62393, GOLPH4 siRNA (m): sc-62394, GOLPH4 shRNA Plasmid (h): sc-62393-SH, GOLPH4 shRNA Plasmid (m): sc-62394-SH, GOLPH4 shRNA (h) Lentiviral Particles: sc-62393-V and GOLPH4 shRNA (m) Lentiviral Particles: sc-62394-V.

Molecular Weight of GOLPH4: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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