

p-GM130 (Ser 25): sc-16306

BACKGROUND

The docking of transport vesicles to their target membrane is mediated by p115. 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 amino-terminus of GM130 binds to p115, whereas the carboxy-terminus binds to Golgi membranes. Both giantin and GM130 compete for binding to p115. Thus, p115-giantin and p115-GM130 interactions might mediate independent membrane tethering events. Transport from the ER to the *cis*/medial Golgi compartments requires the action of p115, GM130 and giantin via a sequential rather than a coordinate mechanism. Mitotic phosphorylation of GM130 at Serine 25 is mediated by Cdc2, prevents binding to p115, and is directly involved in mitotic Golgi fragmentation. GM130 is phosphorylated in prophase as the Golgi complex starts to break down, and remains phosphorylated in metaphase and anaphase. In telophase, GM130 is dephosphorylated by PP2A as the Golgi fragments start to reassemble.

REFERENCES

1. Nakamura, N., et al. 1997. The vesicle docking protein p115 binds GM130, a *cis*-Golgi matrix protein, in a mitotically regulated manner. *Cell* 89: 445-455.
2. Lowe, M., et al. 1998. Cdc2 kinase directly phosphorylates the *cis*-Golgi matrix protein GM130 and is required for Golgi fragmentation in mitosis. *Cell* 94: 783-793.
3. Mizoguchi, T., et al. 2000. Determination of functional regions of p125, a novel mammalian Sec23p-interacting protein. *Biochem. Biophys. Res. Commun.* 279: 144-149.

CHROMOSOMAL LOCATION

Genetic locus: GOLGA2 (human) mapping to 9q34.11; Golga2 (mouse) mapping to 2 B.

SOURCE

p-GM130 (Ser 25) is available as either goat (sc-16306) or rabbit (sc-16306-R) polyclonal antibody raised against a short amino acid sequence containing Ser 25 phosphorylated GM130 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-16306 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

p-GM130 (Ser 25) is recommended for detection of Ser 25 phosphorylated GM130 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).

p-GM130 (Ser 25) is also recommended for detection of correspondingly phosphorylated GM130 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for GM130 siRNA (h): sc-41224, GM130 siRNA (m): sc-41225, GM130 shRNA Plasmid (h): sc-41224-SH, GM130 shRNA Plasmid (m): sc-41225-SH, GM130 shRNA (h) Lentiviral Particles: sc-41224-V and GM130 shRNA (m) Lentiviral Particles: sc-41225-V.

Molecular Weight of p-GM130: 130 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16306): 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), for rabbit primary antibody (sc-16306-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: for goat primary antibody (sc-16306): 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, for rabbit primary antibody (sc-16306-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Shah, M., et al. 2005. Monocrotaline pyrrole-induced endothelial cell megalocytosis involves a Golgi blockade mechanism. *Am. J. Physiol., Cell Physiol.* 288: C850-C862.
2. Tomás, M., et al. 2012. Alcohol induces Golgi fragmentation in differentiated PC12 cells by deregulating Rab1-dependent ER-to-Golgi transport. *Histochem. Cell Biol.* 138: 89-501.


 MONOS
 Satisfation
 Guaranteed

Try **p-GM130 (C-11): sc-377549**, our highly recommended monoclonal alternative to p-GM130 (Ser 25).