

GM130 (C-19): sc-31148

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.
4. Linstedt, A.D., et al. 2000. Binding relationships of membrane tethering components. The giantin N-terminus and the GM130 N-terminus compete for binding to the p115 C-terminus. *J. Biol. Chem.* 275: 10196-10201.
5. Alvarez, C.I., et al. 2000. The p115-interactive proteins, GM130 and giantin participate in ER-Golgi traffic. *J. Biol. Chem.* 276: 2693-2700.
6. Lowe, M., et al. 2000. The mitotic phosphorylation cycle of the *cis*-Golgi matrix protein GM130. *J. Cell Biol.* 149: 341-356.
7. Seemann, J., et al. 2000. The role of the tethering proteins p115 and GM130 in transport through the Golgi apparatus *in vivo*. *Mol. Biol. Cell* 11: 635-645.

CHROMOSOMAL LOCATION

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

SOURCE

GM130 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GM130 of human origin.

STORAGE

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

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-31148 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GM130 (C-19) is recommended for detection of 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).

GM130 (C-19) is also recommended for detection of GM130 in additional species, including equine, bovine and avian.

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 GM130: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or rat liver extract: sc-2395.

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.

SELECT PRODUCT CITATIONS

1. Mhidia, R., et al. 2010. Synthesis of peptide-protein conjugates using N-succinimidyl carbamate chemistry. *Bioconjug. Chem.* 21: 219-228.

RESEARCH USE

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



Try **GM130 (H-7): sc-55590** or **GM130 (B-10): sc-55591**, our highly recommended monoclonal alternatives to GM130 (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **GM130 (H-7): sc-55590**.