SANTA CRUZ BIOTECHNOLOGY, INC.

GM130 (H-65): sc-30100

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The Power to Question

BACKGROUND

The docking of transport vesicles to their target membrane is mediated by p115. GM130, a 130 kDa *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 phosphorylation the *cis*-Golgi matrix protein GM130 and is required for Golgi fragmentation in mitosis. Cell 94: 783-793.

CHROMOSOMAL LOCATION

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

SOURCE

GM130 (H-65) is a rabbit polyclonal antibody raised against amino acids 191-255 mapping within an internal region of 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.

APPLICATIONS

GM130 (H-65) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

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.

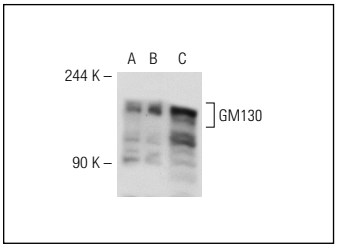
Molecular Weight of GM130: 130 kDa.

Positive Controls: GM130 (m): 293T Lysate: sc-126917, Hep G2 cell lysate: sc-2227 or rat liver extract: sc-2395.

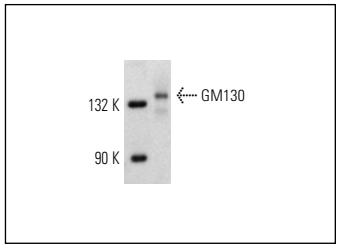
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: 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 A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: 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.

DATA



GM130 (H-65): sc-30100. Western blot analysis of GM130 expression in non-transfected 293T: sc-117752 (**A**), mouse GM130 transfected 293T: sc-126917 (**B**) and Hep G2 (**C**) whole cell lysates.



GM130 (H-65): sc-30100. Western blot analysis of GM130 expression in rat liver tissue extract.

SELECT PRODUCT CITATIONS

1. Sun, K.H., et al. 2008. Novel genetic tools reveal Cdk5's major role in Golgi fragmentation in Alzheimer's disease. Mol. Biol. Cell 19: 3052-3069.
2. Hsieh, S.C., et al. 2010. The length of and nonhydrophobic residues in the transmembrane domain of dengue virus envelope protein are critical for its retention and assembly in the endoplasmic reticulum. J. Virol. 84: 4782-4797.

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.