SANTA CRUZ BIOTECHNOLOGY, INC.

GM130 (H-7): sc-55590

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

GM130 (H-7) is a mouse monoclonal antibody raised against amino acids 191-255 mapping within an internal region of GM130 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GM130 (H-7) is available conjugated to agarose (sc-55590 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55590 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55590 PE), fluorescein (sc-55590 FITC), Alexa Fluor® 488 (sc-55590 AF488), Alexa Fluor® 546 (sc-55590 AF546), Alexa Fluor® 594 (sc-55590 AF594) or Alexa Fluor® 647 (sc-55590 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55590 AF680) or Alexa Fluor® 790 (sc-55590 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GM130 (H-7) is recommended for detection of GM130 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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.

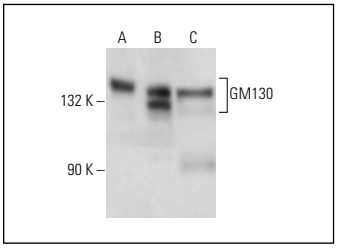
Molecular Weight of GM130: 130 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or rat liver extract: sc-2395.

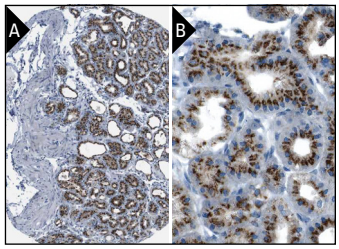
STORAGE

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

DATA



GM130 (H-7): sc-55590. Western blot analysis of GM130 expression in Hep G2 (**A**) and NIH/3T3 (**B**) whole cell lysates and rat liver tissue extract (**C**).



GM130 (H-7): sc-55590. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Harada, K., et al. 2010. Storage of GABA in chromaffin granules and not in synaptic-like microvesicles in rat adrenal medullary cells. J. Neurochem. 114: 617-626.
2. Matsuoka, H., et al. 2011. Differential distribution of synaptotagmin-1, -4, -7, and -9 in rat adrenal chromaffin cells. Cell Tissue Res. 344: 41-50.
3. Brookes, S.J., et al. 2014. Endoplasmic reticulum stress in amelogenesis imperfecta and phenotypic rescue using 4-phenylbutyrate. Hum. Mol. Genet. 23: 2468-2480.
4. Xu, H., et al. 2015. The N terminus of pro-endothelial monocyte-activating polypeptide II (EMAP II) regulates its binding with the C terminus, arginyl-tRNA synthetase, and neurofilament light protein. J. Biol. Chem. 290: 9753-9766.
5. Nguyen, N., et al. 2017. Human hyaluronic acid synthase-1 promotes malignant transformation via epithelial-to-mesenchymal transition, micronucleation and centrosome abnormalities. Cell Commun. Signal. 15: 48.
6. Yoon, Y.J., et al. 2018. 2'-hydroxycinnamaldehyde inhibits cancer cell proliferation and tumor growth by targeting the pyruvate kinase M2. Cancer Lett. 434: 42-55.
7. Castillo, J., et al. 2019. Human testis phosphoproteome reveals kinases as potential targets in spermatogenesis and testicular cancer. Mol. Cell. Proteomics 18: S132-S144.
8. Luo, W., et al. 2020. Spatial and temporal tracking of cardiac exosomes in mouse using a nano-luciferase-CD63 fusion protein. Commun. Biol. 3: 114.

RESEARCH USE

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