abcam

ab52649

Anti-GM130 antibody [EP892Y] - cis-Golgi Marker

Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) is a rabbit monoclonal antibody detecting GM130 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **African green monkey, Dog, Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 290 publications
- Trusted since 2007

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP892Y
Purification technique	Affinity purification Protein A
Specificity	Mouse and rat cell lines pc12, 3t3, raw 264.7 were tested positive in WB. However, brain, kidney, spleen and heart were negative from the two species.
Concentration	0.118 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/20 - 1/50
Notes	-

Expected

Species	African green monkey, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat, Cow, Monkey
Dilution info	-
Notes	-

WB

Tested

Species	African green monkey
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Species	Dog
Dilution info	1/1000 - 1/10000
Notes	-

Not recommended

Species	Mouse, Rat, Cow, Monkey
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	Overnight incubation is recommended.

Expected

Species	African green monkey, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	Overnight incubation is recommended. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Overnight incubation is recommended. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Cow
Dilution info	-
Notes	-

Species	Monkey

Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/250
Notes	PFA fixation should be most suitable.

Expected

Species	African green monkey, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	PFA fixation should be most suitable.

Species	Rat
Dilution info	-
Notes	PFA fixation should be most suitable.

Species	Cow
Dilution info	-
Notes	-

Species	Monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

Species	African green monkey, Dog
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat, Cow, Monkey
Dilution info	-
Notes	-

Target data

See full target information Golgin subfamily A member 2

Function

Peripheral membrane component of the cis-Golgi stack that acts as a membrane skeleton that maintains the structure of the Golgi apparatus, and as a vesicle thether that facilitates vesicle fusion to the Golgi membrane (Probable) (PubMed:16489344). Required for normal protein transport from the endoplasmic reticulum to the Golgi apparatus and the cell membrane (By similarity). Together with p115/USO1 and STX5, involved in vesicle tethering and fusion at the cis-Golgi membrane to maintain the stacked and inter-connected structure of the Golgi apparatus. Plays a central role in mitotic Golgi disassembly: phosphorylation at Ser-37 by CDK1 at the onset of mitosis inhibits the interaction with p115/USO1, preventing tethering of COPI vesicles and thereby inhibiting transport through the Golgi apparatus during mitosis (By similarity). Also plays a key role in spindle pole assembly and centrosome organization (PubMed:26165940). Promotes the mitotic spindle pole assembly by activating the spindle assembly factor TPX2 to nucleate microtubules around the Golgi and capture them to couple mitotic membranes to the spindle: upon phosphorylation at the onset of mitosis, GOLGA2 interacts with importin-alpha via the nuclear localization signal region, leading to recruit importin-alpha to the Golgi membranes and liberate the spindle assembly factor TPX2 from importin-alpha. TPX2 then activates AURKA kinase and stimulates local microtubule nucleation. Upon filament assembly, nascent microtubules are further captured by GOLGA2, thus linking Golgi membranes to the spindle (PubMed:19242490, PubMed:26165940). Regulates the meiotic spindle pole

assembly, probably via the same mechanism (By similarity). Also regulates the centrosome organization (PubMed:18045989, PubMed:19109421). Also required for the Golgi ribbon formation and glycosylation of membrane and secretory proteins (PubMed:16489344, PubMed:17314401).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C

Notes

Product Specifications

Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P, IP, WB in african green monkey, dog, human samples.
Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) specifically detects GM130 (UniProt ID: Q08379; Molecular weight: 113kDa) and is sold in 100 µL and 1 mL selling sizes.

Quality and Validation

Abcam's high quality manufacturing and validation processes ensure Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.
Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) has been cited over 294 times in peer reviewed journals and is trusted by the scientific community.
Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) has 38 independent reviews from customers.

Related Products
Conjugation-ready, carrier free format available for antibody clone EP892Y - ab215966.
Antibody clone EP892Y is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 647, Alexa Fluor® 488, Alexa Fluor® 594, PE, APC, HRP, Alkaline Phosphatase, Alexa Fluor® 555, Alexa Fluor® 568, Alexa Fluor® 750 (ab195303, ab275987, ab277236, ab303011, ab303012, ab303013, ab308664, ab311890, ab312361, ab321664).

Explore our range of organelle-specific antibodies and dyes and discover why our reagents are deeply trusted by cell biologists.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility

- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	GM130 also known as Golgi matrix protein 130 kDa or GM-130 plays an important role in the organization of the Golgi apparatus. The GM130 protein is vital for maintaining the structure of the Golgi serving as a Golgi marker for researchers. Its molecular weight is approximately 130 kDa. You will commonly find GM130 expressed in cells localizing to the cis-Golgi network. As a Golgi marker it serves as an indication of the integrity and positioning of the Golgi apparatus in the cell.
Biological function summary	GM130 serves as a structural component within the Golgi matrix. It interacts with other proteins such as GRASP65 to form a complex which is essential for Golgi stacking and maintenance of Golgi architecture. This interaction helps regulate transport processes inside cells. GM130 proteins help formation of mini-stacks and transitioning of vesicles. In cells GM130 plays a significant role to maintain efficient protein trafficking through the Golgi network.
Pathways	GM130 interacts with proteins like Rab1 during the vesicular transport pathway. It plays a part in the transport of proteins from the endoplasmic reticulum to the Golgi apparatus. Another related pathway involves SNARE proteins whereby GM130 contributes to membrane docking and fusion events. Through these interactions GM130 modulates the fidelity and specificity of molecular cargo transport within the cell.
Associated diseases and disorders	GM130 has a connection to neurodegenerative diseases such as frontotemporal dementia. Disruption in GM130 proteins affects Golgi structure and function potentially leading to protein trafficking defects associated with the disorder. GM130 also relates to Alzheimer's disease through its interaction with tau protein. Alterations in GM130's function can influence tau pathology contributing to disease progression.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

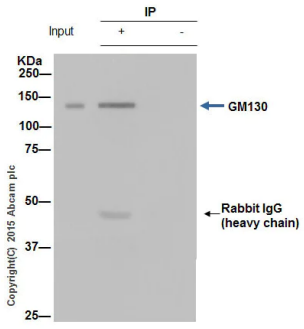
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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14 product images



Immunoprecipitation - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

ab52649 (purified) at 1/20 immunoprecipitating GM130 in HeLa whole cell lysate.
Lane 1 (input): HeLa whole cell lysate (10µg)

Lane 2 (+): ab52649 + HeLa whole cell lysate (10µg).

Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab52649 in HeLa whole cell lysate.

For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1500 dilution.

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

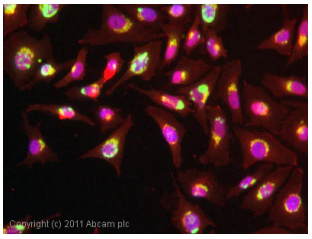
Lane 1:
HeLa whole cell lysate at 10 µg

Lane 2:
ab52649 + HeLa whole cell lysate at 10 µg

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab52649 in HeLa whole cell lysate

Predicted band size: 113 kDa

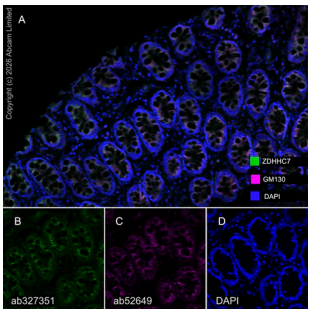
Observed band size: 130 kDa



Immunocytochemistry/ Immunofluorescence - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GM130 antibody

ICC/IF image of unpurified ab52946 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (unpurified ab52946, 1µg/ml) overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti-rabbit IgG - H&L, pre-adsorbed (ab96899) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Multiplex immunohistochemistry - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Multiplex immunohistochemistry staining of Human colon using rabbit Anti-GM130 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human colon tissue staining ZDHHC7 with ab327351 at a 1:200 (2.385 µg/ml) dilution, ab52649 anti-GM130 used at 1:100 (1.18 µg/ml) dilution.

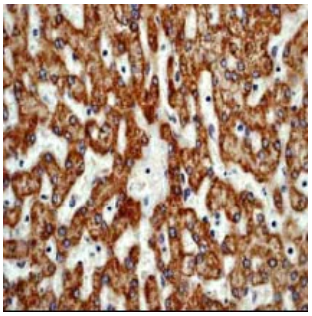
Panel A: anti-ZDHHC7 (green; Opal™520), anti-GM130 (magenta; Opal™690) on human colon.
Panel B: anti-ZDHHC7 showed Golgi staining in human colon.
Panel C: anti-GM130 showed Golgi staining in human colon.
Panel D: Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab327351 and ab52649 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Nuclear counter stain with DAPI.

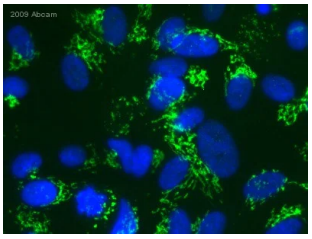
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GM130 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling GM130 with unpurified ab52649 at a dilution of 1/500.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

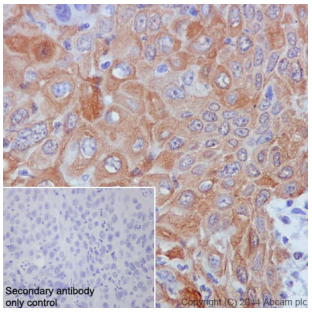


This image is courtesy of a customer review submitted by Vladimir Milenkovic.

Immunocytochemistry/ Immunofluorescence - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GM130 antibody

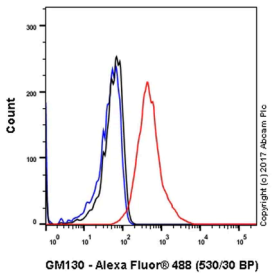
Unpurified ab52649 staining GM130 in human ARPE-19 cells by ICC/IF (immunocytochemistry/immunofluorescence). Cells were formaldehyde fixed, permeabilized by 0.5% TX-100 and blocked with 5% serum for 20 minutes at 25°C. The sample was incubated with the primary antibody (1/500 in 1% goat serum, 0.1%TX100, 1 x PBS) for 16 hours at 4°C. An Alexa Fluor® 488-conjugated Goat anti-rabbit polyclonal (1/500) was used as the secondary.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GM130 antibody

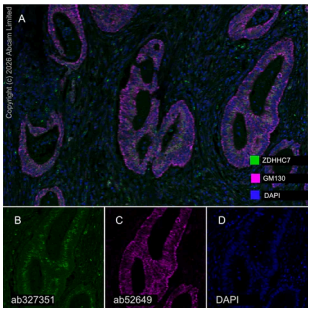
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cervix carcinoma tissue labelling GM130 with purified ab52649 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Flow Cytometry (Intracellular) - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Flow Cytometry (Intracellular) staining using rabbit Anti-GM130 antibody

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling GM130 (red) with ab52649 at a 1/20 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluorr® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.



Multiplex immunohistochemistry - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Multiplex immunohistochemistry staining of Human colon cancer using rabbit Anti-GM130 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human colon cancer tissue staining ZDHHC7 with ab327351 at a 1:200 (2.385 µg/ml) dilution, ab52649 anti-GM130 used at 1:100 (1.18 µg/ml) dilution.

Panel A: anti-ZDHHC7 (green; Opal™520), anti-GM130 (magenta; Opal™690) on human colon cancer.
Panel B: anti-ZDHHC7 showed Golgi staining in human colon cancer.
Panel C: anti-GM130 showed Golgi staining in human colon cancer.
Panel D: Nuclear DNA was labeled with DAPI (shown in blue).

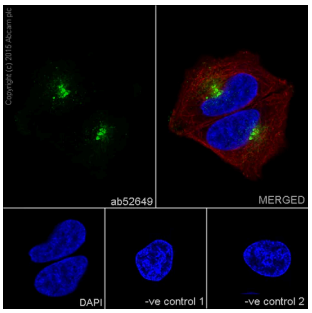
The section was incubated in three rounds of staining: in the order of ab327351 and ab52649 for 30

mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Nuclear counter stain with DAPI.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.

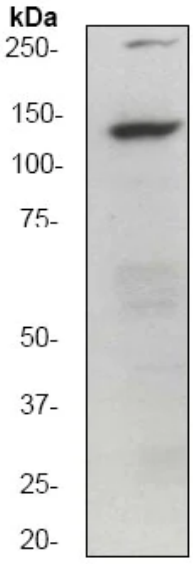


Immunocytochemistry/ Immunofluorescence - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GM130 antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling GM130 with purified ab52649 at 1/50. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291, a mouse anti-tubulin (1/1000) and ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500) were also used.
Control 1: primary antibody (1/50) and secondary antibody, ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).

Control 2: ab7291 (1/1000) and secondary antibody, ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500).



Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

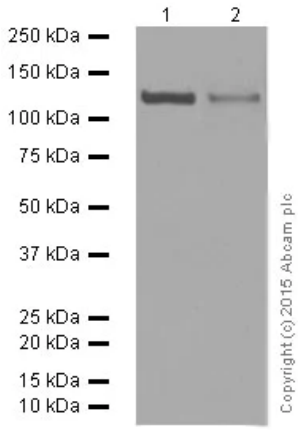
All lanes:
Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) at 1/200000 dilution

All lanes:
HeLa cell lysate at 10 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution

Predicted band size: 113 kDa



Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 20 µg

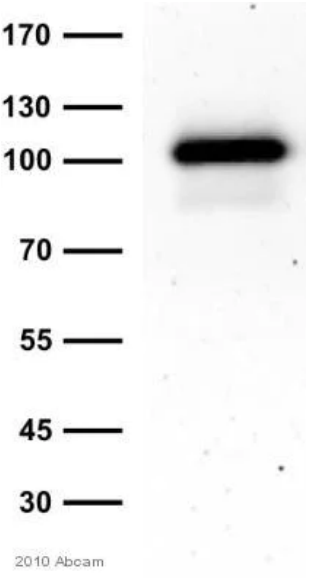
Lane 2:
MCF7 cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG, (H+L) at 1/1000 dilution

Predicted band size: 113 kDa

Observed band size: 130 kDa



Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

GM130 Western blot staining of MDCK 2 cells using rabbit Anti-GM130 antibody

Blocking and dilution buffer: 1XPBS-Tween, 5% milk
Exposure: 10 minutes.

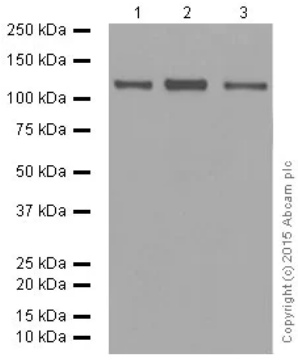
All lanes:
Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) at 1/2500 dilution

All lanes:
MDCK 2 cells at 25 µg

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 113 kDa



Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) at 1/5000 dilution

Lane 1:
MDCK(NBL-2) cell lysate at 20 µg

Lane 2:
MDCK(BL-1) cell lysate at 20 µg

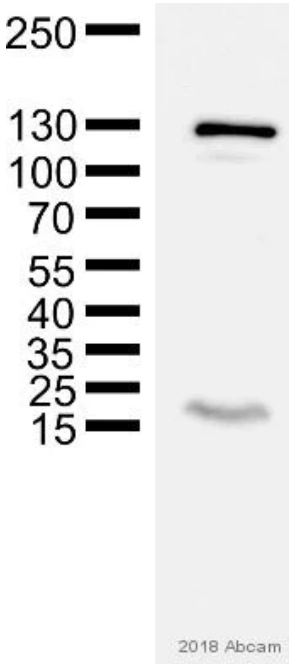
Lane 3:
COS-1 cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG, (H+L) at 1/1000 dilution

Predicted band size: 113 kDa

Observed band size: 130 kDa



Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649)

Blocking and dilution buffer: PBS, 0.05% Tween
Exposure: 5 minutes.

All lanes:
Western blot - Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab52649) at 1/1000 dilution

All lanes:
COS-7 Cell Line from African green monkey kidney whole cell lysate

Predicted band size: 113 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.