abcam

ab195303

Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker

Anti-GM130 antibody [EP892Y] - cis-Golgi Marker - Alexa Fluor® 647 conjugated (ab195303) is a rabbit recombinant monoclonal antibody detecting GM130 in **Flow Cytometry (Intra), ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% 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
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/2500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	0.2 µL for 10^6 Cells
Notes	ab199093 - Rabbit monoclonal IgG (Alexa Fluor® 647), is suitable for use as an isotype control with this antibody.

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	Blue Ice
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	Avoid freeze / thaw cycle, Store in the dark

Notes

What is this antibody validated in?
Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab195303) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

Related products
Antibody clone EP892Y is also available pre-conjugated to a variety of labels for your convenience – Anti-GM130 Alexa Fluor® 647 [EP892Y] - cis-Golgi Marker (ab195303).

Other related products
We have a range of other formats of antibody clone [EP892Y] also available for your convenience: ab52649, Alexa Fluor® 647 - ab195303, Carrier free - ab215966, Alexa Fluor® 488 - ab275987, Alexa Fluor® 594 - ab277236, ab302489, Carrier free - ab302490, PE - ab303011, APC - ab303012, HRP - ab303013, Alkaline Phosphatase - ab308664, Alexa Fluor® 555 - ab311890, Alexa Fluor® 568 - ab312361, Alexa Fluor® 750 - ab321664

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.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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.

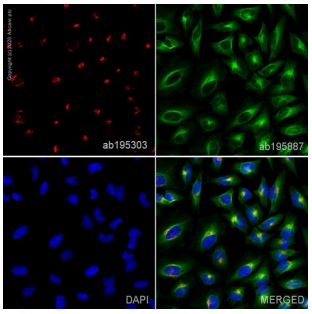
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

5 product images

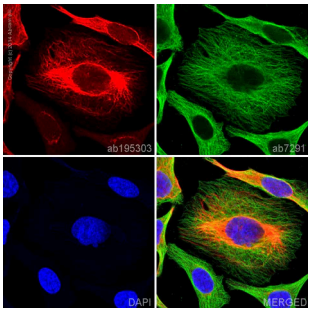


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab195303)

GM130 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GM130 antibody

Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling GM130 with ab195303. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab195303 at 1/2500 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in HeLa cells fixed with 100% methanol (5 min).



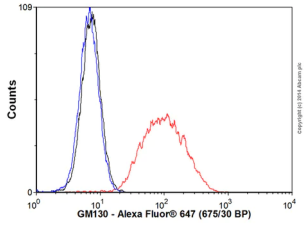
Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab195303)

GM130 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GM130 antibody

ab195303 staining GM130 in HeLa cells. The cells were fixed with 100% methanol (5min), permeabilized in 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated with ab195303 at 5µg/ml (shown in red) and ab7291 (Mouse monoclonal [DM1A] to alpha Tubulin) at 1/100 dilution overnight at +4°C, followed by a further incubation at room temperature for 1h with an

AlexaFluor®488 Goat anti-Mouse secondary (ab150117) at 2µg/ml (shown in green). Nuclear DNA was labelled in blue with DAPI.
This product gave a positive signal in 4% formaldehyde (10min) fixed HeLa cells under the same testing conditions.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

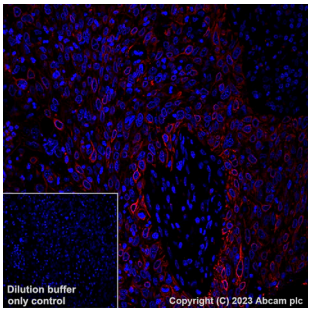


Flow Cytometry (Intracellular) - Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab195303)

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

Overlay histogram showing HeLa cells stained with ab195303 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab195303, 0.1µg/1x10^6 cells) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (Alexa® 647) (0.2µl/1x10^6 cells) for 30 min at 22°C. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 25mW red solid state diode laser (635nm) and 675/30 bandpass filter.

This antibody gave a positive signal in HeLa fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab195303)

GM130 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of human cervix cancer tissue using rabbit Anti-GM130 antibody

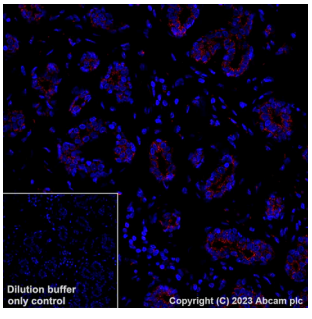
Immunohistochemical analysis of paraffin-embedded human cervix cancer tissue labeling GM130 with ab195303 at 1/100 dilution.
Membranous staining on human cervix cancer.

The primary antibody was incubated for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®.

The immunostaining was performed on a Leica Biosystems BOND RX instrument.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 40 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-GM130 antibody [EP892Y] - cis-Golgi Marker (ab195303)

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

Immunohistochemical analysis of paraffin-embedded human breast tissue labeling GM130 with ab195303 at 1/100 dilution.
Membranous staining on human breast.

The primary antibody was incubated for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®.

The immunostaining was performed on a Leica Biosystems BOND RX instrument.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 40 mins.

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