abcam

ab179805

Anti-GANAB antibody [EPR12377(B)]

Recombinant | RabMAb | KO Validated

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	EPR12377(B)
Purification technique	Affinity purification Protein A
Concentration	0.51 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Species	Mouse
Dilution info	1/1000 - 1/5000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/5000
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information GANAB

Function	Catalytic subunit of glucosidase II that cleaves sequentially the 2 innermost alpha-1,3-linked glucose residues from the Glc(2)Man(9)GlcNAc(2) oligosaccharide precursor of immature glycoproteins (PubMed:10929008). Required for PKD1/Polycystin-1 and PKD2/Polycystin-2 maturation and localization to the cell surface and cilia (PubMed:27259053).

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	Avoid freeze / thaw cycle

Notes

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	GANAB also known as Glucosidase II alpha subunit or neutral alpha-glucosidase AB is an enzyme with an approximate mass of 110 kDa. It functions as part of the endoplasmic reticulum's quality control system modifying N-linked glycans on newly synthesized glycoproteins. GANAB cleaves glucose residues facilitating proper folding and maturation of glycoproteins. Expression of GANAB occurs mainly in the endoplasmic reticulum of various cell types indicating its broad relevance in cellular protein processing.
Biological function summary	GANAB performs a critical role in the maintenance of glycoprotein quality. It acts as part of the Glucosidase II complex working alongside a beta subunit to continue glycoprotein processing. Through the removal of glucose from N-glycans GANAB aids in the correct protein folding and prevents accumulation of misfolded proteins. This function is essential for the normal function of the endoplasmic reticulum-associated degradation (ERAD) pathway.
Pathways	Proper glycoprotein folding through GANAB activity integrates into the broader ERAD pathway and the unfolded protein response. GANAB's role complements the activities of other glycosylation-related proteins such as calnexin and calreticulin ensuring only correctly folded proteins advance through the secretory pathway. This integrated network maintains cellular homeostasis and prevents stress conditions in the endoplasmic reticulum.
Associated diseases and disorders	GANAB's dysfunction associates with autosomal dominant polycystic liver disease and familial hyperinsulinism. These connections emphasize the importance of proper glycoprotein modification managed by GANAB. In these conditions alterations in GANAB or its interacting proteins can lead to aberrant cellular functions and consequent pathologies highlighting potential therapeutic targets in GANAB-associated pathways for disease management.

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

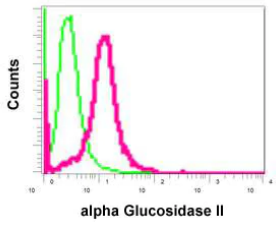
We do not recommend this combination. It is not covered by our product promise.

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.

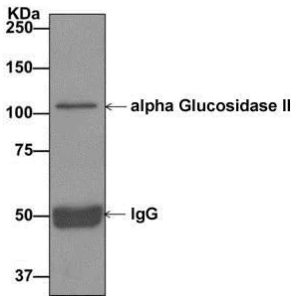
4 product images



Flow Cytometry (Intracellular) - Anti-GANAB antibody [EPR12377(B)] (ab179805)

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

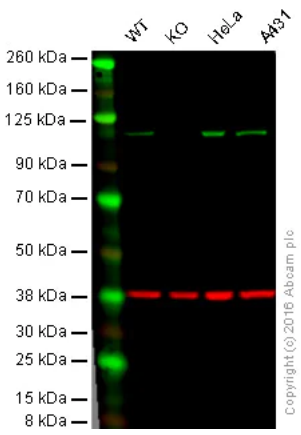
Intracellular flow cytometric analysis of permeabilized HeLa cells labeling GANAB with ab179805 at 1/10 dilution (red), compared toa rabbit IgG negative control (green).



Immunoprecipitation - Anti-GANAB antibody [EPR12377(B)] (ab179805)

Western blot analysis on immunoprecipitation pellet from A431 cell lysate using ab179805.
All lanes:
Immunoprecipitation - Anti-GANAB antibody [EPR12377(B)] (ab179805)

Predicted band size: 107 kDa



Western blot - Anti-GANAB antibody [EPR12377(B)] (ab179805)

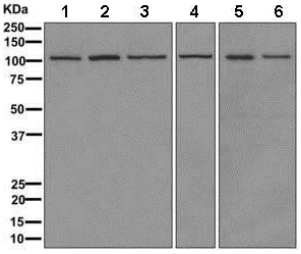
GANAB Western blot staining using rabbit Anti-GANAB antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: GANAB knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: 1 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab179805 observed at 105 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab179805 was shown to specifically react with GANAB when GANAB knockout samples were used. Wild-type and GANAB knockout samples were subjected to SDS-PAGE. ab179805 and ab8245 (loading control to GAPDH) were diluted 1/1000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ab216776 secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-GANAB antibody [EPR12377(B)] (ab179805)

Predicted band size: 107 kDa

Observed band size: 105 kDa



Western blot - Anti-GANAB antibody [EPR12377(B)] (ab179805)

All lanes:
Western blot - Anti-GANAB antibody [EPR12377(B)] (ab179805) at 1/1000 dilution

Lane 1:
Human placenta lysate at 10 µg

Lane 2:
A431 lysate at 10 µg

Lane 3:
HepG2 lysate at 10 µg

Lane 4:
HeLa lysate at 10 µg

Lane 5:
PC-12 lysate at 10 µg

Lane 6:
NIH3T3 lysate at 10 µg

Predicted band size: 107 kDa

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