abcam

ab216071

Anti-AGR2 + AGR3 antibody [EPR20164-222]

Recombinant | RabMAb

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	EPR20164-222
Purification technique	Affinity purification Protein A
Concentration	0.517 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Target data

See full target information AGR2

Function	Required for MUC2 post-transcriptional synthesis and secretion. May play a role in the production of mucus by intestinal cells (By similarity). Proto-oncogene that may play a role in cell migration, cell differentiation and cell growth. Promotes cell adhesion (PubMed:23274113).

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	AGR2 (anterior gradient protein 2) and AGR3 (anterior gradient protein 3) are small proteins with roles in cellular homeostasis. AGR2 has a mass of approximately 20 kDa while AGR3 is around 18 kDa. Both proteins localize in the endoplasmic reticulum (ER) and are expressed notably in epithelial tissues like the

	gastrointestinal tract and respiratory epithelium. AGR2 also known as PDIA17 functions as a protein disulfide isomerase which assists in protein folding. AGR3 shares structural similarities with AGR2 suggesting overlapping functions.
Biological function summary	AGR2 and AGR3 influence processes such as cell growth and repair. They are necessary for maintaining the proper folding of secreted and membrane proteins. AGR2 interacts with mucin proteins and this complex formation is important for mucin production which supports protective mucus barriers. AGR3's specific biological partners are less well-defined but it complements AGR2's functions in similar tissue contexts suggesting it might share similar interactions.
Pathways	AGR2 and AGR3 engage in pathways that link ER function to broader cellular activities. One important pathway involves the unfolded protein response (UPR) where AGR2 helps mitigate ER stress by ensuring proper protein assembly and folding. Additionally AGR2 participates in the ERK signaling pathway impacting cell proliferation and differentiation. Proteins such as ATF6 and GRP78 interact with AGR2 in these pathways indicating its role in stress response and growth signaling networks.
Associated diseases and disorders	AGR2 and AGR3 gain attention in relation to cancer and cystic fibrosis. In cancer especially breast and prostate AGR2 overexpression correlates with tumor progression and metastasis. It interacts with proteins like MUC1 and HER2 facilitating oncogenic pathways. AGR3 while less studied shows similar trends suggesting potential involvement. In cystic fibrosis AGR2 associates with compromised mucin production and secretion causing exacerbated lung conditions. CXCL8 a mucin-related protein is seen alongside AGR2 activity in these inflammatory scenarios.

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

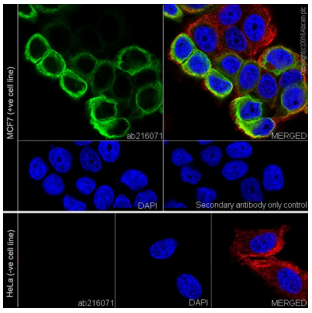
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images



Immunocytochemistry/ Immunofluorescence - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

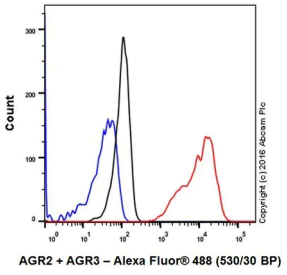
AGR2 + AGR3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-AGR2 + AGR3 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized MCF7 (Human breast adenocarcinoma cell line) and HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling AGR2 + AGR3 with ab216071 at 1/500 dilution followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on MCF7 cell line.

Negative control: HeLa (PMID: 16551856).

The nuclear counterstain is DAPI (blue). Tubulin is detected with ab195889 (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

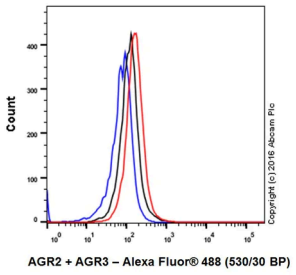
Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

AGR2 + AGR3 Flow Cytometry (Intracellular) staining using rabbit Anti-AGR2 + AGR3 antibody

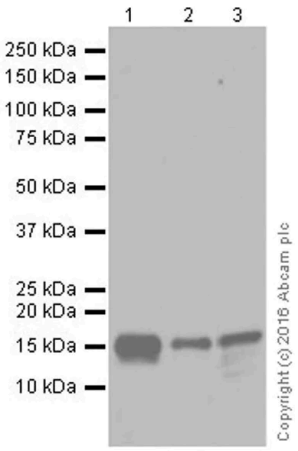
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed MCF7 (Human breast adenocarcinoma cell line) cells labeling AGR2 + AGR3 with ab216071 at 1/500 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

AGR2 + AGR3 Flow Cytometry (Intracellular) staining using rabbit Anti-AGR2 + AGR3 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling AGR2 + AGR3 with ab216071 at 1/50 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

AGR2 + AGR3 Western blot staining using rabbit Anti-AGR2 + AGR3 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071) at 1/1000 dilution

Lane 1:
Mouse stomach tissue lysate at 10 µg

Lane 2:
Rat stomach tissue lysate at 10 µg

Lane 3:
Human lung tissue lysate at 10 µg

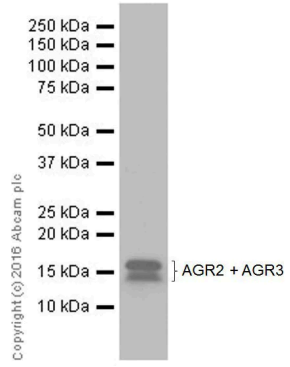
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 19 kDa, 20 kDa

Observed band size: 17 kDa

Exposure time: 3min



Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071) at 1/2000 dilution

All lanes:
Human stomach lysate at 20 µg

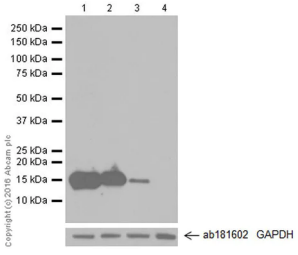
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 19 kDa, 20 kDa

Observed band size: 17 kDa, 18 kDa

Exposure time: 1s



Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

Blocking/Dilution buffer: 5% NFDM/TBST.
According to the literature AGR2 is not expressed in HeLa (PMID: 16551856). Currently no published data is available regarding the expression of AGR3 in HeLa cells.

All lanes:
Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071) at 1/1000 dilution

Lane 1:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 2:
HT-29 (Human colorectal adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 3:
PC-3 (Human prostate adenocarcinoma cell line) whole cell lysate at 10 µg

Lane 4:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

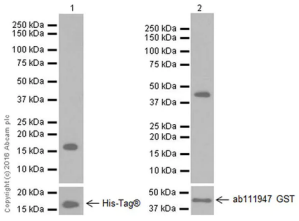
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 19 kDa, 20 kDa

Observed band size: 17 kDa

Exposure time: 1min



Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1: 15 seconds; Lane 2: 3 seconds.

All lanes:
Western blot - Anti-AGR2 + AGR3 antibody [EPR20164-222] (ab216071) at 1/10000 dilution

Lane 1:
Human AGR2 His-tagged recombinant protein (aa21-175) at 0.01 µg

Lane 2:
Human AGR3 GST-tagged recombinant protein (aa21-166) at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 19 kDa, 20 kDa

Observed band size: 17 kDa, 42 kDa

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