abcam

ab209224

Anti-Anterior Gradient 2 antibody [EPR20164-278]

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	EPR20164-278
Purification technique	Affinity purification Protein A
Concentration	0.794 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Rat
Dilution info	1/1000
Notes	-

Species	Mouse

Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Expected

Species	Recombinant fragment
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Rat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	-
Notes	-

Species	Recombinant fragment
Dilution info	1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/70
Notes	-

Expected

Species	Rat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	-
Notes	-

Species	Recombinant fragment
Dilution info	1/70
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/1000
Notes	

Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

Species	Recombinant fragment
Dilution info	1/1000
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	Anterior Gradient 2 (AG2) also known as AGR2 is a protein with a molecular weight of approximately 20 kDa. This protein is a member of the protein disulfide isomerase family and has an important mechanical role in facilitating protein folding within the endoplasmic reticulum. The protein exists mainly in epithelial tissues and notably in the gastrointestinal tract with high expression also found in the pancreas and lungs. AG2 is characterized by its interaction with various client proteins assisting in their proper folding and stability.
Biological function summary	The anterior gradient protein influences cellular processes such as proliferation and differentiation often playing a role in cellular adhesion and migration. This protein does not work alone but instead can form complexes with other molecules enhancing its functional capabilities. Such interactions highlight its significance in maintaining normal cell physiology and response to external stimuli.
Pathways	Anterior gradient protein participates in key signaling pathways including the Wnt signaling pathway and the unfolded protein response (UPR). Through these pathways AG2 associates with proteins like β-catenin influencing gene transcription and cellular outcomes. In the UPR its role is important in managing cellular stress and maintaining homeostasis by regulating protein folding and quality control mechanisms.
Associated diseases and disorders	Anterior gradient protein shows strong associations with cancer particularly in tumors such as breast and lung cancer where it is often overexpressed. Its involvement links closely with proteins like MUC1 which is found in tumors suggesting a role in promoting cancer progression and metastasis. Additionally AG2 can be related to inflammatory bowel diseases where its dysregulation may result in epithelial barrier dysfunction and contribute to the pathology.

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.

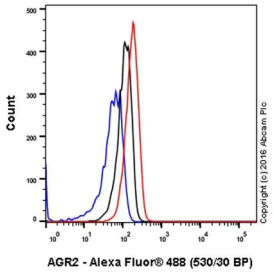
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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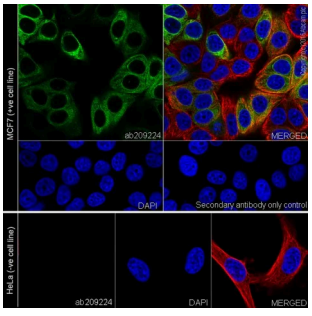
11 product images



Flow Cytometry (Intracellular) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Flow Cytometry (Intracellular) staining using rabbit Anti-Anterior Gradient 2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling Anterior Gradient 2 with ab209224 at 1/70 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled 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.
Negative control: HeLa



Immunocytochemistry/ Immunofluorescence - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Anterior Gradient 2 antibody

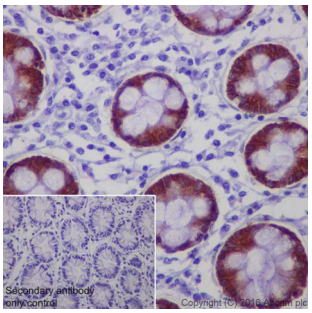
Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized MCF7 (Human breast adenocarcinoma cell line) and HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling Anterior Gradient 2 with ab209224 at 1/500 dilution followed by Goat anti-rabbit IgG (Alexa 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

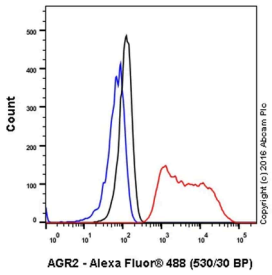
Anterior Gradient 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Anterior Gradient 2 antibody

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling Anterior Gradient 2 with ab209224 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Cytoplasmic staining on human colon is observed [PMID: 24794000].

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

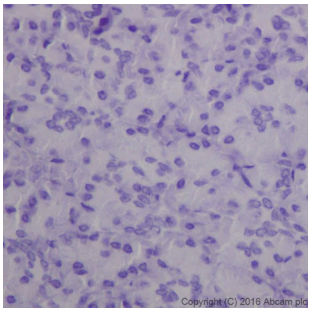
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Flow Cytometry (Intracellular) staining using rabbit Anti-Anterior Gradient 2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed MCF7 (Human breast adenocarcinoma cell line) cells labeling Anterior Gradient 2 with ab209224 at 1/70 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled 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.



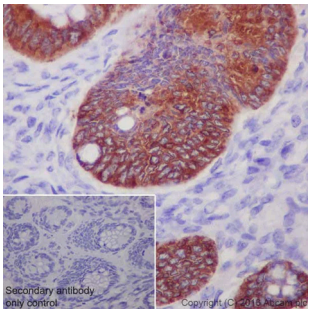
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Anterior Gradient 2 antibody

Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling Anterior Gradient 2 with ab209224 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Negative control: human pancreas [PMID: 20550709].

Counter stained with Hematoxylin.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

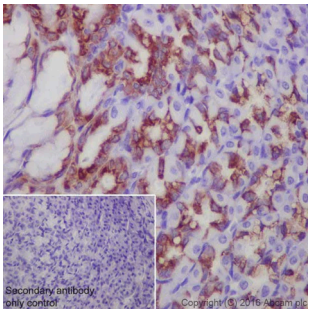
Anterior Gradient 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Anterior Gradient 2 antibody

Immunohistochemical analysis of paraffin-embedded human ovary cancer tissue labeling Anterior Gradient 2 with ab209224 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Cytoplasmic staining on human ovary cancer is observed [PMID: 22752467].

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

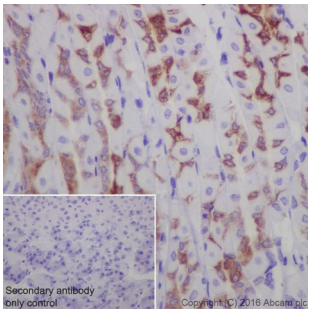
Anterior Gradient 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Anterior Gradient 2 antibody

Immunohistochemical analysis of paraffin-embedded rat stomach tissue labeling Anterior Gradient 2 with ab209224 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Cytoplasmic staining on rat stomach is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

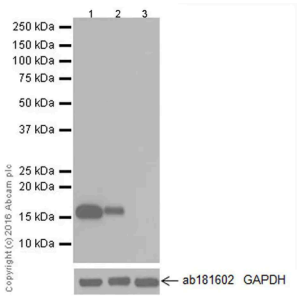
Anterior Gradient 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Anterior Gradient 2 antibody

Immunohistochemical analysis of paraffin-embedded mouse stomach tissue labeling Anterior Gradient 2 with ab209224 at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Cytoplasmic staining on mouse stomach is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Western blot staining using rabbit Anti-Anterior Gradient 2 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Negative control: HeLa (PMID: 16551856).

All lanes:
Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224) at 1/2000 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:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

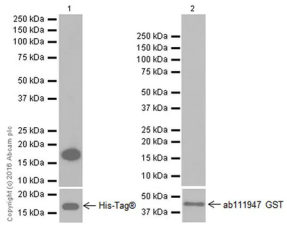
Secondary

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

Predicted band size: 19 kDa

Observed band size: 17 kDa

Exposure time: 10s



Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Western blot staining using rabbit Anti-Anterior Gradient 2 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1: 10 seconds; Lane 2: 3 minutes.

Human AGR2 recombinant protein contains aa21-175 with a His-tag, and human AGR3 recombinant protein contains aa21-166 with GST-tag.

All lanes:
Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224) at 1/2000 dilution

Lane 1:
Human AGR2 recombinant protein at 0.01 µg

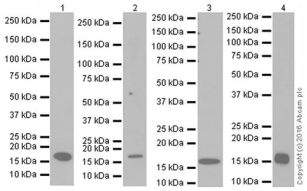
Lane 2:
Human AGR3 recombinant protein at 0.01 µg

Secondary

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

Predicted band size: 19 kDa

Observed band size: 17 kDa



Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224)

Anterior Gradient 2 Western blot staining using rabbit Anti-Anterior Gradient 2 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1-3: 3 minutes; Lane 4: 10 seconds.

Lanes 1 - 3:
Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224) at 1/1000 dilution

Lane 4:
Western blot - Anti-Anterior Gradient 2 antibody [EPR20164-278] (ab209224) at 1/2000 dilution

Lane 1:
Mouse stomach lysate at 10 µg

Lane 2:
Rat stomach lysate at 10 µg

Lane 3:
Rat small intestine lysate at 10 µg

Lane 4:
Human stomach lysate at 10 µg

Secondary

Lanes 1 - 3:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Lane 4:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 19 kDa

Observed band size: 17 kDa

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