abcam

ab222377

Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR17338
Purification technique	Affinity purification Protein A
Concentration	1.019 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

WB

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	This product gave a positive signal in HAP1-ITGA2 wild-type cells fixed with 4% formaldehyde (10 min) and 100% methanol (5 min).

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	ab199376 - 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	-

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information ITGA2

Function	Integrin alpha-2/beta-1 is a receptor for laminin, collagen, collagen C-propeptides, fibronectin and E-cadherin. It recognizes the proline-hydroxylated sequence G-F-P-G-E-R in collagen. It is responsible for adhesion of platelets and other cells to collagens, modulation of collagen and collagenase gene expression, force generation and organization of newly synthesized extracellular matrix. (Microbial infection) Integrin ITGA2:ITGB1 acts as a receptor for Human rotavirus A. (Microbial infection) Integrin ITGA2:ITGB1 acts as a receptor for Human echoviruses 1 and 8.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab222377 is the carrier-free version of ab181548.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

What does low endotoxin mean?

Our low endotoxin, azide-free formats have low endotoxin level (1 EU/mg, determined by the TAL assay) and are free from azide, to achieve consistent experimental results in functional assays.

Supplementary info

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

Activity summary	Integrin alpha 2 also known as CD49b ITGA2 and A2 is a protein that functions as part of the integrin family. Integrins are transmembrane receptors that facilitate cell-extracellular matrix adhesion. Integrin alpha 2 has a molecular mass of approximately 130 kDa and is widely expressed in epithelial cells fibroblasts and platelets. This protein is important for mediating adhesion between cells and the extracellular matrix affecting cell signaling and behavior. Through this adhesion cells can communicate with their environment adjusting their functions accordingly.
Biological function summary	Integrin alpha 2 plays a significant role in cellular processes like migration and proliferation. It forms a heterodimer complex by pairing with the beta 1-integrin subunit contributing to its adhesive and signaling functions. This association enables the integrin alpha 2 complex to bind specific extracellular matrix components such as collagen and laminin. Through these interactions it regulates

	processes like wound healing and tissue remodeling and affects how cells respond to mechanical stress.
Pathways	Integrin alpha 2 is involved in major signaling routes that influence cell fate and movement. Notably it participates in the PI3K/AKT and MAPK pathways which are important for regulating cell growth and survival. It interacts with signaling proteins like focal adhesion kinase (FAK) and Src family kinases linking extracellular matrix changes to intracellular responses. These pathways help in transmitting signals that coordinate the cell's structural and functional adjustments in response to its surroundings.
Associated diseases and disorders	Integrin alpha 2 has connections to cancer and fibrosis. In cancers its altered expression may contribute to tumor progression and metastasis often involving interactions with other integrins and matrix metalloproteinases that degrade extracellular components. In fibrosis excessive integrin alpha 2 activity can lead to abnormal tissue remodeling and scarring implicating its role alongside collagen-producing cells. Understanding these connections is vital for developing therapies targeting integrin-mediated pathways in these diseases.

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

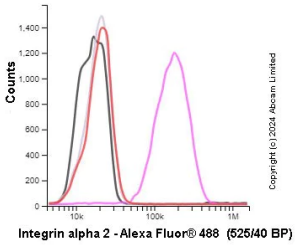
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images



Flow Cytometry (Intracellular) - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

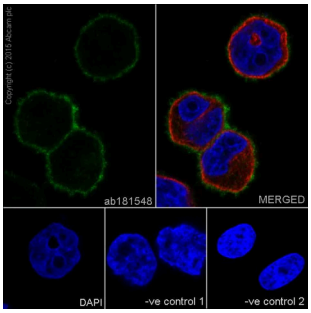
Integrin alpha 2 Flow Cytometry (Intracellular) staining using rabbit Anti-Integrin alpha 2 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).
Flow cytometry overlay histogram showing staining with ab181548 of HAP1 WT positive cells (magenta line) and HAP1-ITGA2 KO negative cells (red line). The cells were fixed with 80% methanol, and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab181548) (1x 10^6 in 100µl at 0.2µg/ml (1/2,500)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C.

Isotype control antibody was Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control in HAP1 WT cells (black line) and HAP1-ITGA2 KO cells (grey line), used at the same concentration and conditions as the primary antibody.

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

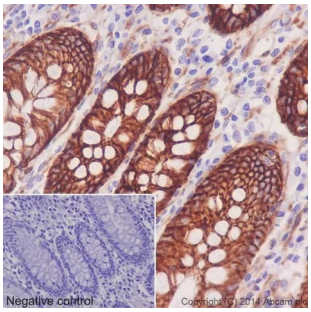


Immunocytochemistry/ Immunofluorescence - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

Integrin alpha 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Integrin alpha 2 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized PC-3 (Human prostate adenocarcinoma cell line) cells labeling integrin alpha 2 with ab181548 at 1/100 dilution, followed by Goat anti-rabbit IAlexa Fluor® 488 (IgG) (ab150077) secondary antibody at 1/400 dilution (green). Confocal image showing membrane and weakly cytoplasmic staining on PC-3 cell line is observed. The nuclear counterstain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (goat anti-mouse AlexaFluor®594 secondary antibody) at 1/500 dilution (red).
The negative controls are as follows:-
-ve control 1 - ab181548 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2. - ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).



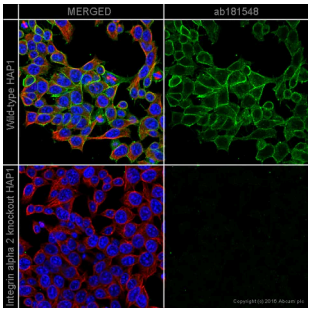
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

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

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Integrin alpha 2 with ab181548 at 1/500 dilution followed by Goat Anti-Rabbit HRP (IgG H&L) (ab97051) at 1/500 dilution. Membrane and weak cytoplasmic staining on epithelial cells of human colon is observed. Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).

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



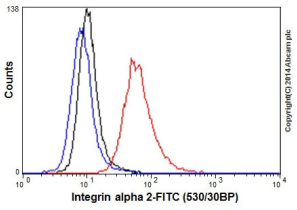
Immunocytochemistry/ Immunofluorescence - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

Integrin alpha 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Integrin alpha 2 antibody

ab181548 staining Integrin α2 in wild-type HAP1 cells (top panel) and Integrin α2 knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 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 with ab181548 at 1µg/ml concentration and ab7291 at 1ug/ml concentration overnight at +4°C, followed by a further incubation at room temperature for 1h with a goat secondary antibody to Rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green) and a goat secondary antibody to Mouse IgG (Alexa Fluor® 594) (ab150120) at 2ug/ml (shown in pseudo-color red). Nuclear DNA was labelled in blue with DAPI.

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

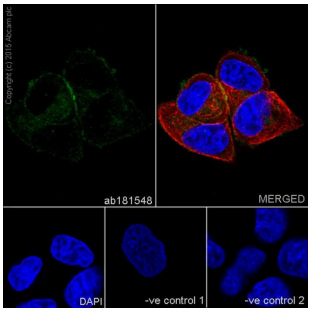
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).



Flow Cytometry (Intracellular) - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

Integrin alpha 2 Flow Cytometry (Intracellular) staining using rabbit Anti-Integrin alpha 2 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed A549 (Human lung carcinoma) cells labeling integrin alpha 2 with ab181549 at 1/160 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and a unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).

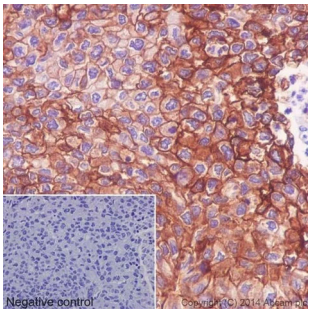


Immunocytochemistry/ Immunofluorescence - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

Integrin alpha 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Integrin alpha 2 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MCF7 (Human breast adenocarcinoma cell line) cells labeling integrin alpha 2 with ab181548 at 1/100 dilution, followed by Goat anti-rabbit IAlexa Fluor® 488 (IgG) (ab150077) secondary antibody at 1/400 dilution (green). Confocal image showing membrane staining on MCF7 cell line is observed. The nuclear counterstain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (goat anti-mouse AlexaFluor®594 secondary antibody) at 1/500 dilution (red).
The negative controls are as follows:-
-ve control 1 - ab181548 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2. - ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).

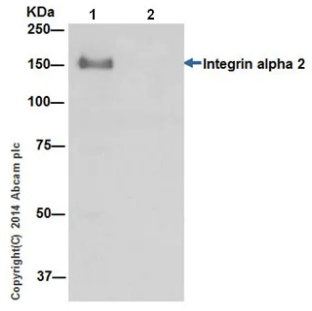


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

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

Immunohistochemical analysis of paraffin-embedded Human squamous cell carcinoma of cervix tissue labeling Integrin alpha 2 with ab181548 at 1/500 dilution followed by Goat Anti-Rabbit HRP (IgG H&L) (ab97051) at 1/500 dilution. Membrane and weak cytoplasmic staining on epithelial cells of human squamous cell carcinoma of cervix tissue is observed. Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS BSA glycerol and sodium azide (ab181548).

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



Immunoprecipitation - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

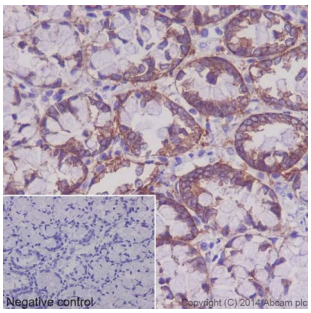
Integrin alpha 2 was immunoprecipitated from 1mg of T-47D (Human ductal breast epithelial tumor cell line) whole cell extract with ab181548 at 1/150 dilution. Western blot was performed using ab181548 at 1/20,000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution. Lane 1: T-47D whole cell extract Lane 2: PBS instead of T-47D whole cell extract.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).

All lanes:
Immunoprecipitation - Anti-Integrin alpha 2 antibody [EPR17338] - C-terminal (ab181548)

Predicted band size: 129 kDa

Observed band size: 150 kDa

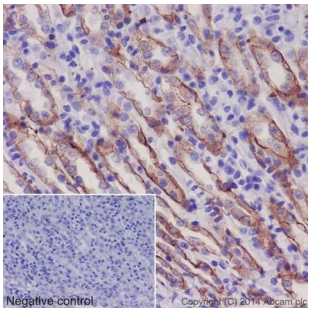


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

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

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling Integrin alpha 2 with ab181548 at 1/500 dilution followed by Goat Anti-Rabbit HRP (IgG H&L) (ab97051) at 1/500 dilution. Membrane staining on epithelial cells of Rat colon tissue is observed. Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS BSA glycerol and sodium azide (ab181548).

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-Integrin alpha 2 antibody [EPR17338] - Low endotoxin, Azide free (ab222377)

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

Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling Integrin alpha 2 with ab181548 at 1/500 dilution followed by Goat Anti-Rabbit HRP (IgG H&L) (ab97051) at 1/500 dilution. Membrane and weak cytoplasmic staining on epithelial cells of Mouse kidney tubule is observed. Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181548).

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

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