abcam

ab307406

Anti-CD18 antibody [EPR26929-26]

Recombinant | RabMAb | 20ul selling size

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	EPR26929-26
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

IP

Not recommended

Species	Human, Rat, Mouse, Transfected cell line
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Rat, Mouse, Transfected cell line
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat, Mouse, Transfected cell line
Dilution info	-
Notes	-

IHC-Fr

Not recommended

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

Species	Rat

Dilution info	-
Notes	-

Species	Mouse
Dilution info	-
Notes	-

Species	Transfected cell line
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Rat
Dilution info	-
Notes	-

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

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat, Mouse, Transfected cell line
Dilution info	-
Notes	-

Target data

See full target information ITGB2

Function

Integrin ITGAL:ITGB2 is a receptor for ICAM1, ICAM2 and ICAM3 (PubMed:1676048, PubMed:23775590, PubMed:38195629). Integrin ITGAL:ITGB2 is also a receptor for the secreted form of ubiquitin-like protein ISG15; the interaction is mediated by ITGAL (PubMed:29100055). Integrins ITGAM:ITGB2 and ITGAX:ITGB2 are receptors for the iC3b fragment of the third complement component and for fibrinogen. Integrin ITGAX:ITGB2 recognizes the sequence G-P-R in fibrinogen alpha-chain. Integrin ITGAM:ITGB2 recognizes P1 and P2 peptides of fibrinogen gamma chain. Integrin ITGAM:ITGB2 is also a receptor for factor X. Integrin ITGAD:ITGB2 is a receptor for ICAM3 and VCAM1 (PubMed:10438935, PubMed:8777714, PubMed:9841932). Contributes to natural killer cell cytotoxicity (PubMed:15356110). Involved in leukocyte adhesion and transmigration of leukocytes including T-cells and neutrophils (PubMed:11812992, PubMed:28807980). Triggers neutrophil transmigration during lung injury through PTK2B/PYK2-mediated activation (PubMed:18587400). Integrin ITGAL:ITGB2 in association with ICAM3, contributes to apoptotic neutrophil phagocytosis by macrophages (PubMed:23775590). In association with alpha subunit ITGAM/CD11b, required for CD177-PRTN3-mediated activation of TNF primed neutrophils (PubMed:21193407). Integrins ITGAX:ITGB2 functions as a receptor of the erythrocyte-specific adhesion molecule ICAM4 and mediates erythrophagocytosis (PubMed:16985175). Integrins ITGAX:ITGB2 functions as a receptor of the neuron-specific adhesion molecule ICAM5 ensuring neuron cell-leukocyte adhesion (PubMed:10741396). Integrin ITGAL:ITGB2 functions as a receptor of ICAM1 by acting as a platform at the immunological synapse to translate TCR engagement and density of the ITGAL ligand ICAM1 into graded adhesion (PubMed:38195629). Integrin ITGAM:ITGB2/MAC-1 complex functions as a signaling receptor for the ligand receptor ICAM1, ensuring adhesion between stimulated neutrophils and stimulated endothelial cells (PubMed:1980124). Integrin ITGAL/ITGB2 that functions as a signaling receptor of ICAM2, ensuring leukocyte cell-cell adhesion on resting cells (PubMed:1676048).

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	CD18 also known as ITGB2 is a protein with a molecular weight of approximately 95 kDa. It is part of the beta-2 integrin family and partners with different alpha subunits to form heterodimers. CD18 is primarily expressed on leukocytes including neutrophils monocytes macrophages and lymphocytes. As a surface marker CD18 plays a significant role in immune cell adhesion and migration enabling cells to respond to inflammation signals effectively.
Biological function summary	The CD18 protein functions in conjunction with associated alpha subunit partners forming a part of the wider integrin family complex. ItgB2 as it is sometimes referred to is essential for cell adhesion processes. These heterodimers facilitate binding between leukocytes and various ligands on endothelial cells which subsequently controls leukocyte transmigration through vascular walls. CD18's

	activities are critical in immune system responses making it a prominent focus in immunological research.
Pathways	The role of CD18 extends into inflammatory and immune response signaling pathways. It contributes critically to the leukocyte adhesion cascade. This cascade engagement involves interaction with other proteins such as ICAM-1 on endothelial surfaces. CD18 through its association in integrin-mediated signaling influences processes like phagocytosis and lymphocyte activation giving it a central place in cellular immunity.
Associated diseases and disorders	Deficiencies or mutations affecting CD18 function correlate with disorders such as Leukocyte Adhesion Deficiency type I (LAD-I). This condition results from impaired leukocyte function due to defective integrin expression. The role of CD18 in arthritis is also significant primarily by mediating leukocyte infiltration into inflamed tissues. Its interaction with proteins like ICAM-1 becomes exceptionally relevant in these disease dynamics indicating potential therapeutic targets for modulating immune responses.

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

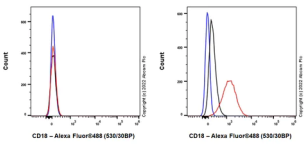
We do not recommend this combination. It is not covered by our product promise.

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.

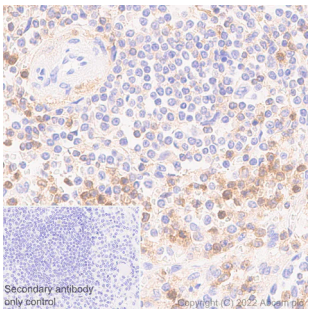
10 product images



Flow Cytometry - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Flow Cytometry staining using rabbit Anti-CD18 antibody

Flow cytometric analysis of HeLa (human cervix adenocarcinoma epithelial cell, Left) / U937 (human histiocytic lymphoma monocyte, Right) cells labelling CD18 with ab307406 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.Negative control: HeLa (PMID: 31109948).

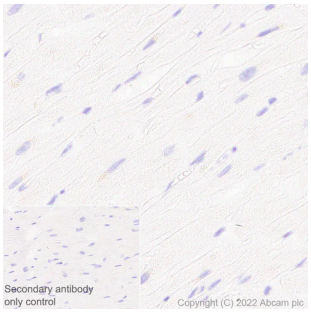


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human spleen using rabbit Anti-CD18 antibody

Immunohistochemical analysis of paraffin-embedded Human spleen tissue labeling CD18 with ab307406 at 1/100 (5.22 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Positive staining on human spleen. The section was incubated with ab307406 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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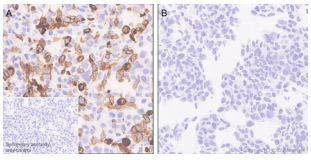


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cardiac muscle using rabbit Anti-CD18 antibody

Immunohistochemical analysis of paraffin-embedded Human cardiac muscle tissue labeling CD18 with ab307406 at 1/100 (5.22 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Negative control: no staining on human cardiac muscle. The section was incubated with ab307406 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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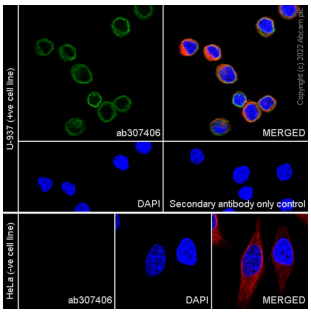


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of HEK-293T using rabbit Anti-CD18 antibody

Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human tissue labeling CD18 with ab307406 at 1/100 (5.22 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Positive staining on (A) HEK-293T transfected with a ITGB2 his tag construct, no staining on (B) HEK-293T transfected with empty plasmid. The section was incubated with ab307406 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was

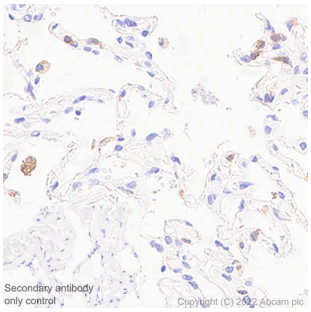
used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD18 antibody

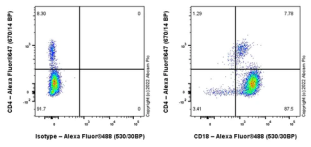
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized U-937 (human histiocytic lymphoma monocyte) cells labelling CD18 with ab307406 at 1/1000 (0.522 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing cytoplasmic staining in U-937 cell line. Negative control: HeLa. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8) ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human lung using rabbit Anti-CD18 antibody

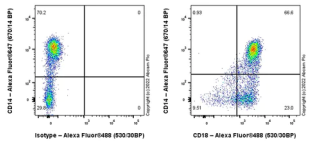
Immunohistochemical analysis of paraffin-embedded Human lung tissue labeling CD18 with ab307406 at 1/100 (5.22 ug/ml) followed by a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Positive staining on macrophages of human lung. The section was incubated with ab307406 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond® Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Flow Cytometry - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Flow Cytometry staining of Human peripheral blood mononuclear cell (PBMC) using rabbit Anti-CD18 antibody

Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells labelling CD18 with ab307406 at 1/500 dilution (0.1ug)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.Cells were stained with Rabbit IgG or ab307406. Then stained with anti-CD4 conjugated to Alexa Fluor® 647.

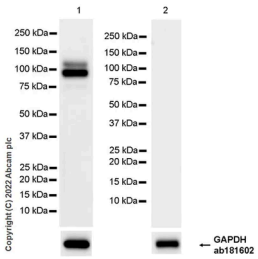


Flow Cytometry - Anti-CD18 antibody [EPR26929-26] (ab307406)

CD18 Flow Cytometry staining of Human peripheral blood mononuclear cell (PBMC) using rabbit Anti-CD18 antibody

Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells lABelling CD18 with ab307406 at 1/500 dilution (0.1ug)/ Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody

and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells. Cells were stained with Rabbit IgG or ab307406. Then stained with anti-CD14 conjugated to Alexa Fluor® 647.



Western blot - Anti-CD18 antibody [EPR26929-26] (ab307406)

Blocking and diluting buffer and concentration: 5% NFDM/TBSTNegative control: Hela The MW is consistent to what has been described in the literature (PMID: 31109948) Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. Samples are non-boiled as boiling may cause protein aggregation. Exposure time: 26 seconds
All lanes:
Western blot - Anti-CD18 antibody [EPR26929-26] (ab307406) at 1/1000 dilution

Lane 1:
U-937 (human histiocytic lymphoma monocyte) whole cell lysate 20 µg

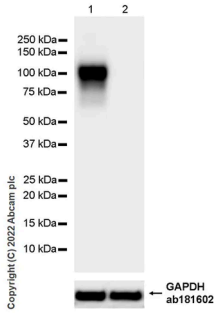
Lane 2:
Hela (human cervix adenocarcinoma epithelial cell) whole cell lysate 20 µg

Secondary

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

Observed band size: 90 kDa, 110 kDa

Exposure time: 26s



Western blot - Anti-CD18 antibody [EPR26929-26] (ab307406)

Blocking and diluting buffer and concentration: 5% NFDM/TBSTNegative control: human heart The MW is consistent to what has been described in the literature (PMID: 31109948) Samples are non-boiled as boiling may cause protein aggregation. Exposure time: Lanes 1: 37 seconds, Lanes 2-3: 59 seconds, Lanes 4-5: 103 seconds,
All lanes:
Western blot - Anti-CD18 antibody [EPR26929-26] (ab307406) at 1/1000 dilution

Lane 1:
Human lymphoma tissue 20 µg

Lane 2:
Human heart tissue 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 90 kDa, 110 kDa

Exposure time: 37s

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