abcam

ab284389

Anti-CD133 antibody [RM1029]

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	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1029
Purification technique	Affinity purification Protein A
Concentration	0.513 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Human
Dilution info	1/50
Notes	ICC is unsuitable for Mouse

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100
Notes	Perform heat mediated antigen retrieval with sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20) before commencing with IHC staining protocol.

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	Perform heat mediated antigen retrieval with sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20) before commencing with IHC staining protocol.

Target data

See full target information PROM1

Function	May play a role in cell differentiation, proliferation and apoptosis (PubMed:24556617). Binds cholesterol in cholesterol-containing plasma membrane microdomains and may play a role in the organization of the apical plasma membrane in epithelial cells. During early retinal development acts as a key regulator of disk morphogenesis. Involved in regulation of MAPK and Akt signaling pathways. In neuroblastoma cells suppresses cell differentiation such as neurite outgrowth in a RET-dependent manner (PubMed:20818439).

Storage

Shipped at conditions	Blue Ice
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

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

Supplementary info

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

Activity summary	CD133 also known as Prominin-1 is a transmembrane glycoprotein with a molecular weight of approximately 120 kDa. This protein stands out due to its expression in various stem and progenitor cells including those of the neural hematopoietic and epithelial lineages. CD133 is recognized for its distinct five transmembrane domains and two large extracellular loops. Researchers commonly use CD133 as a cell surface marker to identify stem and progenitor cells. The significance of CD133 extends to immunohistochemistry (IHC) and Western blot applications where it is a popular target for detection and analysis.

Biological function summary	CD133 is involved in maintaining the cellular architecture and signaling processes. It plays a role in cellular differentiation and proliferation while acting as a part of larger protein complexes on the cell surface. This protein is notable as it contributes significantly to the regulation of stem cell properties supporting the growth and repair in various tissues. Anti-CD133 antibodies are valuable tools in studying these functions due to their specificity in targeting this marker.
Pathways	CD133 participates in cellular signaling and transport pathways vital for intercellular communication and homeostasis. It interacts within pathways related to cell polarity and asymmetric division both essential for tissue development and maintenance. CD133 is associated with proteins like CD133/1 and CD133/2 which further highlights its involvement in these complex biological networks and on pathways such as the Wnt signaling pathway which regulates gene expression associated with cell proliferation and differentiation.
Associated diseases and disorders	Several studies indicate a strong relationship between CD133 expression and certain cancers such as glioblastoma and colorectal cancer. In these cases CD133 serves not only as a marker but also as an indicator of the presence of cancer stem cells which are capable of tumor initiation and maintenance. Furthermore researchers have identified connections between CD133 and other proteins such as c-Met (cMab) within these pathological contexts suggesting interactions that could contribute to disease progression and offering potential targets for therapeutic intervention.

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

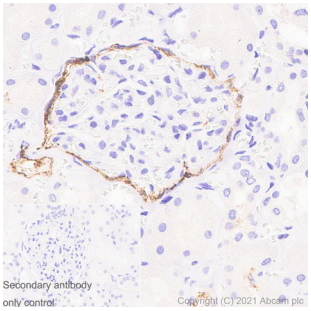
We do not recommend this combination. It is not covered by our product promise.

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.

17 product images

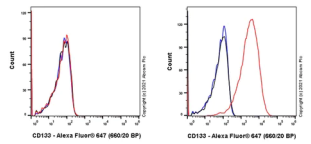


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labelling CD133 with ab284389 at 1/500 (1.016 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on parietal layer of Bowman's capsule and apical staining on renal tubules in human kidney. The section was incubated with ab284389 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.

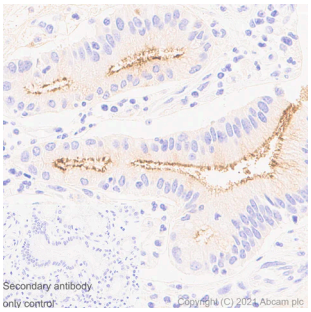
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Flow Cytometry - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Flow Cytometry staining using rabbit Anti-CD133 antibody

Flow cytometric analysis of 293T (Human embryonic kidney epithelial cell, Left), Caco-2 (Human colorectal adenocarcinoma epithelial cell, Right) cells labelling CD133 with ab284389 at 1/500 dilution (0.1ug) (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® 647, ab150083) at 1/2000 dilution was used as the secondary antibody. Negative control: 293T. Gated on viable cells.

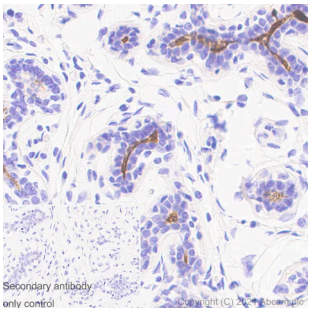


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Human pancreatic carcinoma tissue labelling CD133 with ab284389 at 1/500 (1.016 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Apical staining on human pancreatic carcinoma. The section was incubated with ab284389 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

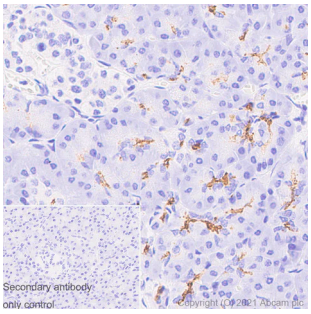


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Human breast tissue labelling CD133 with ab284389 at 1/500 (1.016 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Apical staining on human breast. The section was incubated with ab284389 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

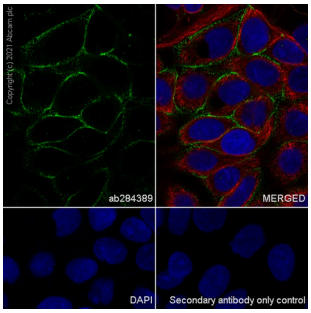


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Human pancreas tissue labelling CD133 with ab284389 at 1/500 (1.016 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on the pancreatic ducts in human pancreas. The section was incubated with ab284389 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.

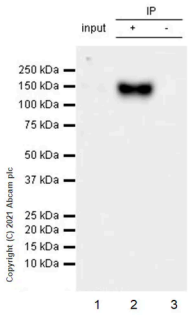
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunocytochemistry - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunocytochemistry staining using rabbit Anti-CD133 antibody

Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized Caco-2 cells labelling CD133 with ab284389 at 1/50 (10.16 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing membranous staining in Caco-2 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/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 2ug/ml dilution.



Immunoprecipitation - Anti-CD133 antibody [RM1029] (ab284389)

CD133 was immunoprecipitated from 0.35 mg Caco-2 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate 10ug with ab284389 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab284389 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: Caco-2 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate 10ug

Lane 2: ab284389 IP in Caco-2 whole cell lysate

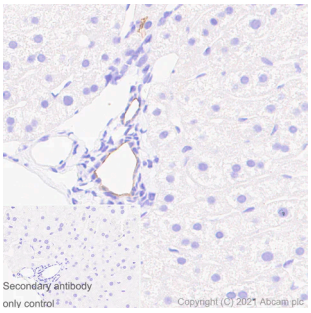
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab284389 in Caco-2 whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 32 seconds.

All lanes:
Immunoprecipitation - Anti-CD133 antibody [RM1029] (ab284389)

Predicted band size: 97 kDa

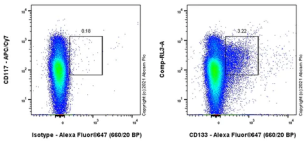


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labelling CD133 with ab284389 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on the biliary ducts of mouse liver. The section was incubated with ab284389 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.

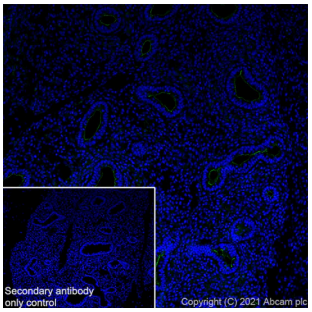
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Flow Cytometry staining using rabbit Anti-CD133 antibody

Flow cytometric analysis of Mouse bone marrow cell cells labelling CD133 with ab284389 at 1/50 dilution (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® 647, ab150083) at 1/2000 dilution was used as the secondary antibody. Cells were co-stained with anti-CD117 conjugated to APC/Cy7. Gated on viable cells.

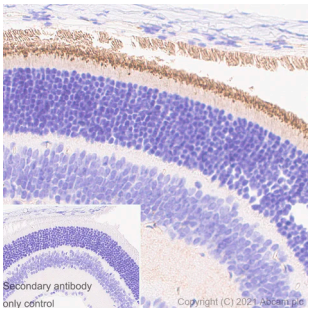


Immunohistochemistry (Frozen sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Frozen sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse E14.5 embryonic lung tissue labeling CD133 with ab284389 at 1/100 (5.08 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution (Green). Positive staining on the apical side of mouse E14.5 embryonic lung buds is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/ml dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

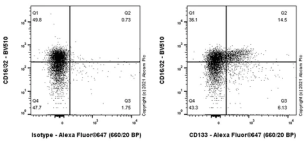


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Mouse retina tissue labelling CD133 with ab284389 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on the cone and rod cells of mouse retina. The section was incubated with ab284389 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.

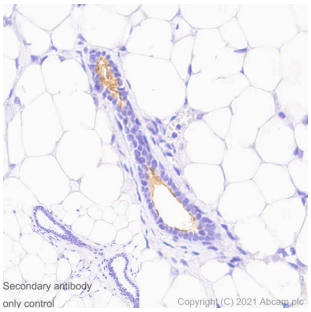
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Flow Cytometry - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Flow Cytometry staining using rabbit Anti-CD133 antibody

Flow cytometric analysis of Mouse bone marrow cell cells labelling CD133 with ab284389 at 1/50 dilution (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® 647, ab150083) at 1/2000 dilution was used as the secondary antibody. Cells were stained with rabbit IgG or ab271092. Then stained with Lineage cocktail conjugated to FITC, anti-Sca-1 conjugated to PE/Cy7, anti-CD117 conjugated to APC/Cy7 and anti-CD16/32 conjugated to BV510.Gated on viable MP cells. Positive staining on CD16/32+ MP cells is consistent with literature. (PMID: 23509298)

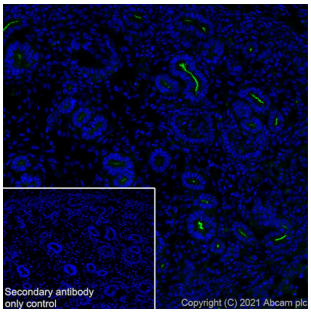


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of paraffin-embedded Mouse breast tissue labelling CD133 with ab284389 at 1/2000 (0.254 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Apical staining on mouse breast. The section was incubated with ab284389 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

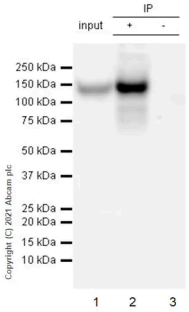


Immunohistochemistry (Frozen sections) - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Immunohistochemistry (Frozen sections) staining using rabbit Anti-CD133 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse E14.5 embryonic kidney tissue labeling CD133 with ab284389 at 1/100 (5.08 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution (Green). Positive staining on the apical side of mouse E14.5 embryonic kidney buds is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 ug/ml dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Immunoprecipitation - Anti-CD133 antibody [RM1029] (ab284389)

CD133 was immunoprecipitated from 0.35 mg Mouse kidney lysate 10ug with ab284389 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab284389 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: Mouse kidney lysate 10ug

Lane 2: ab284389 IP in Mouse kidney lysate

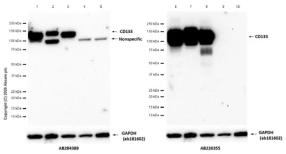
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab284389 in Mouse kidney lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

All lanes:
Immunoprecipitation - Anti-CD133 antibody [RM1029] (ab284389)

Predicted band size: 97 kDa



Western blot - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Western blot staining using rabbit Anti-CD133 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000,000 dilution.

ab284389 detected a non-specific band at approximately 100 kDa.

Negative control: HEK-293T, HeLa.

All lanes:
Western blot - Anti-CD133 antibody [RM1029] (ab284389) at 1/1000 dilution

Lanes 1 and 6:
Caco-2 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lanes 2 and 7:
NCCIT (Human pluripotent embryonic carcinoma epithelial cell) whole cell lysate at 20 µg

Lanes 3 and 8:
HT-29 (human colorectal adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lanes 4 and 9:
HEK-293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

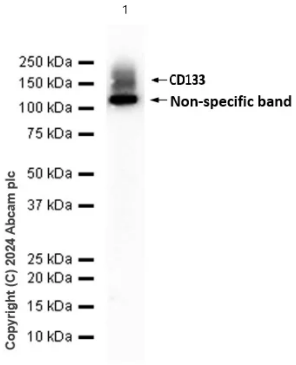
Lanes 5 and 10:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 120 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-CD133 antibody [RM1029] (ab284389)

CD133 Western blot staining of F9 (Mouse embryonal carcinoma epithelial cell) whole cell lysate using rabbit Anti-CD133 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
ab284389 detected a non-specific band at approximately 100 kDa.

All lanes:
Western blot - Anti-CD133 antibody [RM1029] (ab284389) at 1/1000 dilution

All lanes:
F9 (Mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 120 kDa

Exposure time: 180s

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