abcam

ab216323

Anti-CD133 antibody [EPR20980-104]

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	EPR20980-104
Purification technique	Affinity purification Protein A
Concentration	1.386 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/70
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

IHC-P

Tested

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.

Predicted

Species	Primates
Dilution info	-
Notes	-

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	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	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.

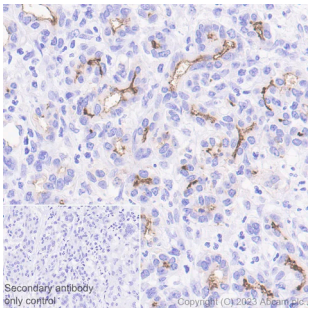
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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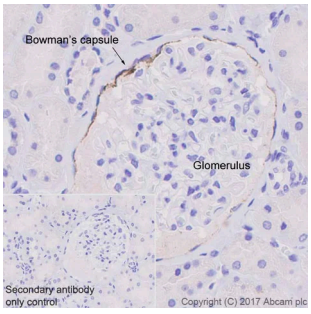
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9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [EPR20980-104] (ab216323)

Immunohistochemical analysis of paraffin-embedded Human pancreatic carcinoma tissue labelling CD133 with ab216323 at 1/1000 dilution (1.386 µg/ml) followed by a Goat Anti-Rabbit IgG H&L (HRP polymer) (ab214880) at Ready to use dilution. Positive staining on human pancreatic carcinoma. The section was incubated with ab216323 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is Goat Anti-Rabbit IgG H&L (HRP polymer) (ab214880) at Ready to use dilution. Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0).

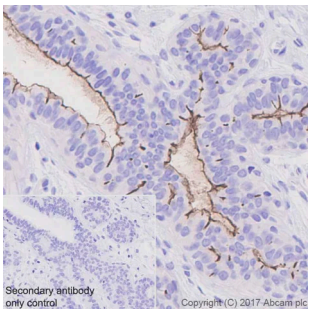


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [EPR20980-104] (ab216323)

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

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling CD133 with ab216323 at 1/1000 dilution, followed by a Goat Anti-Rabbit IgG H&L (HRP), ready to use. Membranous staining on parietal layer of Bowman's capsule of human kidney (PMID: 19092120) is

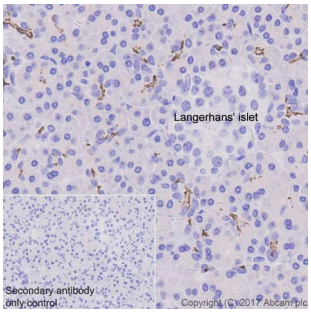
observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a Goat Anti-Rabbit IgG H&L (HRP), ready to use.
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [EPR20980-104] (ab216323)

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

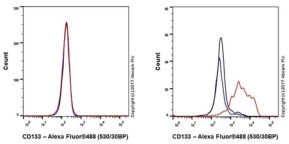
Immunohistochemical analysis of paraffin-embedded human mammary gland tissue labeling CD133 with ab216323 at 1/1000 dilution, followed by a Goat Anti-Rabbit IgG H&L (HRP), ready to use. Apical/endoluminal staining on ducts of human mammary gland (PMID: 18261235) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a Goat Anti-Rabbit IgG H&L (HRP), ready to use.
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [EPR20980-104] (ab216323)

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

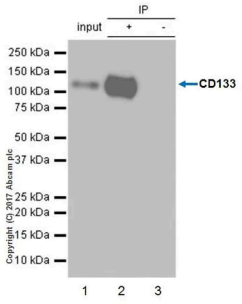
Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling CD133 with ab216323 at 1/1000 dilution, followed by a Goat Anti-Rabbit IgG H&L (HRP), ready to use. Apical/endoluminal staining on ducts of human pancreas, and negative on Langerhans cells of the islets (PMID: 18261235) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a Goat Anti-Rabbit IgG H&L (HRP), ready to use.
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Flow Cytometry - Anti-CD133 antibody [EPR20980-104] (ab216323)

CD133 Flow Cytometry staining using rabbit Anti-CD133 antibody

Flow cytometric analysis of HEK-293T (human embryonic kidney epithelial cell)(Left) / Caco-2 (human colorectal adenocarcinoma epithelial cell)(Right) cell line labeling CD133 with ab216323 at 1/100 (Red) compared with Isotype Control Rabbit monoclonal IgG (ab172730) (BLack) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.
Negative control: 293T (PMID 20167130). Total viable cells were gated for the FC image.



Immunoprecipitation - Anti-CD133 antibody [EPR20980-104] (ab216323)

CD133 was immunoprecipitated from 0.35 mg Caco-2 (human colorectal adenocarcinoma epithelial cell) whole cell lysate with ab216323 at 1/70 dilution. Western blot was performed from the immunoprecipitate using ab216323 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1,000 dilution
Lane 1: Caco-2 (human colorectal adenocarcinoma epithelial cell) whole cell lysate 10 µg (Input).
Lane 2: ab216323 IP in Caco-2 whole cell lysate (+).
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab216323 in Caco-2 whole cell lysate (-).
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 1 second.
All lanes:
Immunoprecipitation - Anti-CD133 antibody [EPR20980-104] (ab216323)

Predicted band size: 97 kDa

Observed band size: 120 kDa



Western blot - Anti-CD133 antibody [EPR20980-104] (ab216323)

ab216323 was shown to react with CD133 in western blot. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab216323 overnight at 4°C at a 1 in 1000 dilution. Blots were incubated with HRP conjugated Goat anti-Rabbit (H+L) secondary antibody at 1/5000 for 1 hour at room temperature before development with ECL reagent and imaging.
All lanes:
Western blot - Anti-CD133 antibody [EPR20980-104] (ab216323) at 1/1000 dilution

Lane 1:
Caco-2 cell lysate at 20 µg

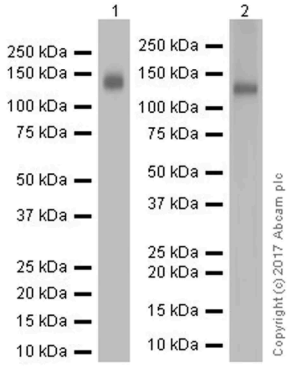
Lane 2:
HeLa cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 97 kDa

Observed band size: 110 kDa

Exposure time: 8min



Western blot - Anti-CD133 antibody [EPR20980-104] (ab216323)

Blocking: 5% NFDM/TBST.
Exposure time:

Lane 1: 30 seconds

Lane 2: 1 minute

All lanes:
Western blot - Anti-CD133 antibody [EPR20980-104] (ab216323) at 1/1000 dilution

Lane 1:
NCCIT (human pluripotent embryonic carcinoma epithelial cell), whole cell lysate at 10 µg

Lane 2:
Human fetal kidney at 10 µg

Secondary

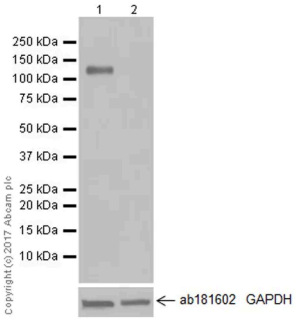
Lane 1:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Lane 2:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Developed using the ECL technique.

Predicted band size: 97 kDa

Observed band size: 120 kDa



Western blot - Anti-CD133 antibody [EPR20980-104] (ab216323)

Blocking: 5% NFDM/TBST.
Negative control: HEK-293T (PMID 20167130).

The MW observed is consistent with the literature (PMID 20717901; PMID 18645205).

All lanes:
Western blot - Anti-CD133 antibody [EPR20980-104] (ab216323) at 1/1000 dilution

Lane 1:
Caco-2 (human colorectal adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
HEK-293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 97 kDa

Observed band size: 120 kDa

Exposure time: 3min

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