abcam

ab19898

Anti-CD133 antibody - Stem Cell Marker

Anti-CD133 antibody - Stem Cell Marker (ab19898) is a rabbit polyclonal antibody detecting CD133 in **Western Blot, Flow Cytometry, IP, IHC-P, IHC-Fr, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Over 260 publications
- Trusted since 2005

Lab Essentials

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Purification technique	Affinity purification Immunogen
Specificity	From Jan 2024, QC testing of replenishment batches of this polyclonal changed. All tested and expected application and reactive species combinations are still covered by our Abcam product promise. However, we no longer test all applications. For more information on a specific batch, please contact our Scientific Support who will be happy to help. You may also be interested in our alternative recombinant antibody, ab284389.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Expected

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

IP

Expected

Species	Human
Dilution info	1/30
Notes	-

Species	Mouse
Dilution info	1/30
Notes	-

Species	Rat
Dilution info	1/30
Notes	-

Flow Cyt

Expected

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

WB

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	1-2 µg/mL
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Expected

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

ICC/IF

Expected

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

IHC-Fr

Expected

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

Anti-CD133 antibody - Stem Cell Marker (ab19898) is a rabbit polyclonal antibody and is validated for use in Flow Cyt, ICC, ICC/IF, IHC-Fr, IHC-P, IP, WB in human, mouse samples.

Anti-CD133 antibody - Stem Cell Marker (ab19898) has been cited over 264 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality validation processes ensure Anti-CD133 antibody - Stem Cell Marker (ab19898) has high sensitivity and specificity.

Anti-CD133 antibody - Stem Cell Marker (ab19898) has 26 independent reviews from customers.

Anti-CD133 antibody - Stem Cell Marker (ab19898) specifically detects CD133 (UniProt ID: O43490; Molecular weight: 95kDa) and is sold in a 100 µg selling size.

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

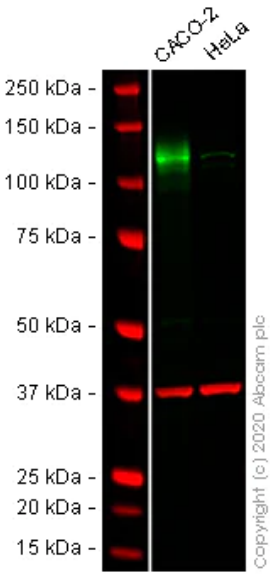
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images



Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898)

Lanes 1 - 2: Merged signal (red and green). Green - ab19898 observed at 97 kDa. Red - loading control, ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.
ab19898 was shown to react with CD133 in western blot. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with ab19898 and ab8245 (Mouse anti-GAPDH antibody [6C5]) overnight at 4°C at 1 µg/ml and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898) at 1 µg/mL

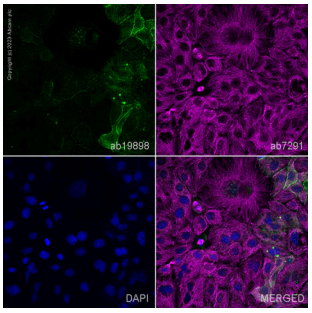
Lane 1:
Caco 2 cell lysate at 20 µg

Lane 2:
HeLa cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 97 kDa

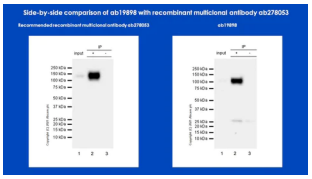
Observed band size: 97 kDa



Immunocytochemistry/ Immunofluorescence - Anti-CD133 antibody - Stem Cell Marker (ab19898)

CD133 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD133 antibody

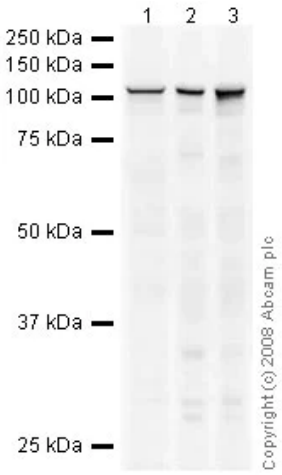
ab19898 staining CD133 in Caco-2 cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab19898 at 1µg/ml and ab7291, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with ab150081, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and ab150120, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour magenta). Nuclear DNA was labelled with DAPI (shown in blue). Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Immunoprecipitation - Anti-CD133 antibody - Stem Cell Marker (ab19898)

Immunoprecipitation side-by-side comparison with the recombinant multiclonal antibody ab278053
This immunoprecipitation image is a comparison between ab19898 and the alternative recombinant multiclonal antibody ab278053.
Left side - Recombinant multiclonal to CD133 - ab278053
CD133 was immunoprecipitated from 0.35 mg Caco-2 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate with ab278053 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab278053 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: Caco-2 whole cell lysate 10 µg.
Lane 2: ab278053 IP in Caco-2 whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab278053 in Caco-2 whole cell lysate.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 3 seconds.
Right side - Polyclonal antibody to [CD133] - ab19898
Same testing conditions as ab278053.
Why choose a recombinant antibody?
Research with confidence - consistent and reproducible results with every batch
Long-term and scalable supply - powered by recombinant technology for fast production
Success from the first experiment - confirmed specificity through extensive validation
Ethical standards compliant - production is animal-free
All lanes:
Immunoprecipitation - Anti-CD133 antibody - Stem Cell Marker (ab19898)

Predicted band size: 97 kDa



Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898)

ab19898 contains a number of potential glycosylation sites (SwissProt) which may explain its migration at a higher molecular weight than predicted.
All lanes:
Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898) at 1 µg/mL

Lane 1:
MEL-1 (Human embryonic stem cell, male cell line) Whole Cell Lysate (ab27198) at 10 µg

Lane 2:
Western blot - HT-29 whole cell lysate (ab3952) at 10 µg

Lane 3:
Caco-2 whole cell lysate (ab3950) at 10 µg

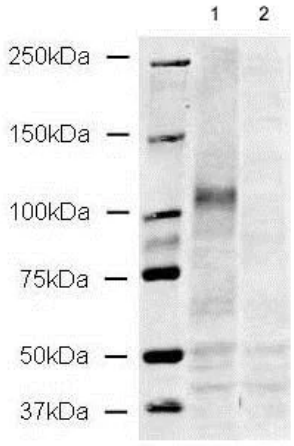
Secondary

All lanes:
Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

Predicted band size: 97 kDa

Observed band size: 110 kDa



Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898)

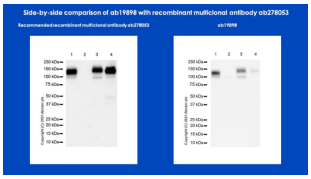
CD133 Western blot staining of Human Embryonic Stem Cell Lysate using rabbit Anti-CD133 antibody

Anti-CD133 antibody ab19898 detects a band corresponding to the expected size of CD133 in Human Embryonic Stem Cell Lysate using Western Blotting. It is likely that the band runs higher than the predicted MW of CD133 due to glycosylation of CD133. In mouse neural stem cell and mouse embryonic stem cell lysate this ~110 kDa band was not detected but a reproducible band of ~30 kDa was seen. This could represent a cleavage product but it may also be that the ~30 kDa band represents non-specific binding by ab19898. However, ab19898 has been shown to recognise mouse neural stem cells using ICC. Blocking using the immunising peptide removed both of these bands.
All lanes:
Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898) at 1 µg/mL

Lane 1:
Human Embryonic Stem Cell Lysate at 20 µg

Lane 2:
Human Embryonic Stem Cell Lysate at 20 µg with CD133 peptide (ab20651)

Predicted band size: 97 kDa



Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898)

CD133 Western blot staining using rabbit Anti-CD133 antibody

Western blot side-by-side comparison with the recombinant multiclonal antibody ab278053
This Western blot image is a comparison between ab19898 and the alternative recombinant

multiclonal antibody ab278053.
Left side - Recombinant multiclonal to CD133 - ab278053
All lanes : Anti-CD133 antibody [RM1002] (ab278053) at 1/1000 dilution
Lane 1 : Caco-2 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate
Lane 2 : HEK-293T (Human embryonic kidney epithelial cell) whole cell lysate
Lane 3 : NCCIT (Human pluripotent embryonic carcinoma epithelial cell) whole cell lysate
Lane 4 : HT-29 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate
Lysates/proteins at 20 µg per lane.
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution
Predicted band size: 97 kDa
Observed band size: 120 kDa
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 26 seconds.
Right side - Polyclonal antibody to [CD133] - ab19898
Same testing conditions as ab278053.
Why choose a recombinant antibody?
Research with confidence - consistent and reproducible results with every batch
Long-term and scalable supply - powered by recombinant technology for fast production
Success from the first experiment - confirmed specificity through extensive validation
Ethical standards compliant - production is animal-free
All lanes:
Western blot - Anti-CD133 antibody - Stem Cell Marker (ab19898)

Predicted band size: 97 kDa

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