

Anti-CD133 antibody [RM1002] - Stem Cell Marker ab278053

敲除验证
重组
RabMAb

[3 References](#)
[9 图像](#)

概述

产品名称	Anti-CD133抗体[RM1002] - Stem Cell Marker
描述	兔重组multiclonal [RM1002] to CD133 - Stem Cell Marker
宿主	Rabbit
经测试应用	适用于: WB, IHC-P, Flow Cyt, IP 不适用于: ICC/IF or IHC-Fr
种属反应性	与反应: Human
免疫原	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: Caco-2, NCCIT and HT-29, HAP-1 whole cell lysates. IHC-P: Human kidney and mammary gland tissue. Flow Cyt: Caco-2 cells. IP: Caco-2 whole cell lysate.
常规说明	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
存储溶液	Preservative: 0.01% Sodium azide Constituents: 59.94% PBS, 0.05% BSA, 40% Glycerol (glycerin, glycerine)
纯度	Protein A purified
克隆	Recombinant Multiclonal
克隆编号	RM1002
同种型	IgG

应用

The Abpromise guarantee

Abpromise™ 承诺保证使用ab278053于以下的经测试应用

“应用说明”部分下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
WB		1/1000. Detects a band of approximately 120 kDa (predicted molecular weight: 97 kDa).
IHC-P		1/1000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
Flow Cyt		1/500.
IP		1/30.

应用说明

Is unsuitable for ICC/IF or IHC-Fr.

靶标

功能

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).

组织特异性

Isoform 1 is selectively expressed on CD34 hematopoietic stem and progenitor cells in adult and fetal bone marrow, fetal liver, cord blood and adult peripheral blood. Isoform 1 is not detected on other blood cells. Isoform 1 is also expressed in a number of non-lymphoid tissues including retina, pancreas, placenta, kidney, liver, lung, brain and heart. Found in saliva within small membrane particles. Isoform 2 is predominantly expressed in fetal liver, skeletal muscle, kidney, and heart as well as adult pancreas, kidney, liver, lung, and placenta. Isoform 2 is highly expressed in fetal liver, low in bone marrow, and barely detectable in peripheral blood. Isoform 2 is expressed on hematopoietic stem cells and in epidermal basal cells (at protein level). Expressed in adult retina by rod and cone photoreceptor cells (at protein level).

疾病相关

Retinitis pigmentosa 41
Cone-rod dystrophy 12
Stargardt disease 4
Retinal macular dystrophy 2

序列相似性

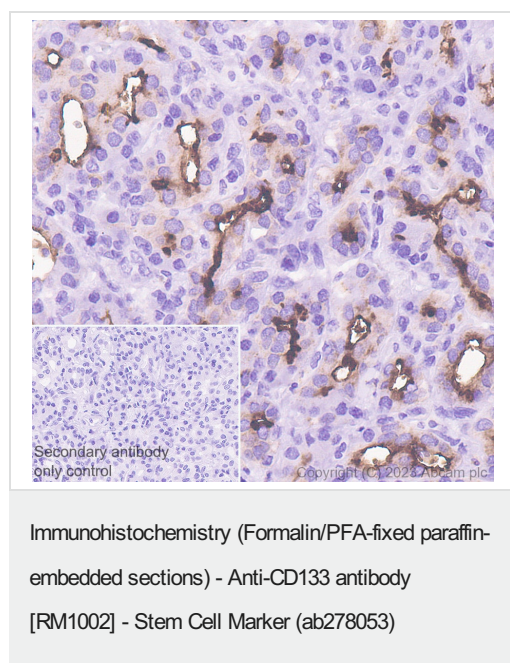
Belongs to the prominin family.

翻译后修饰

Isoform 1 and isoform 2 are glycosylated.
Acetylation at Lys-225, Lys-257 and Lys-264 by NAT8 and NAT8B may control PROM1 protein expression and its function in cell apoptosis.

细胞定位

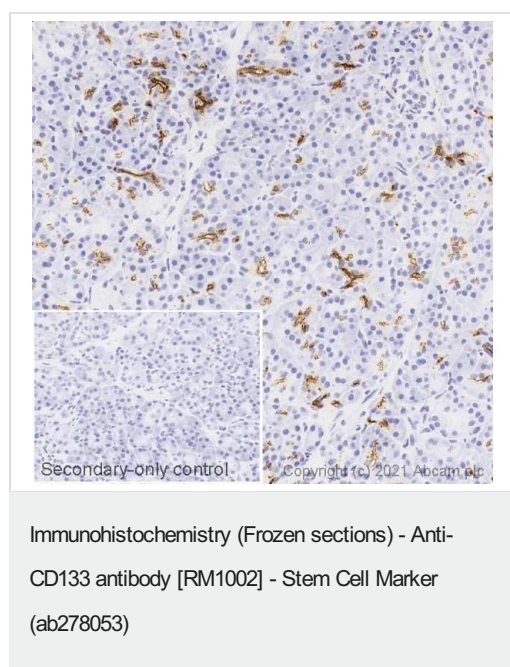
Apical cell membrane. Cell projection, microvillus membrane. Cell projection, cilium, photoreceptor outer segment. Endoplasmic reticulum. Endoplasmic reticulum-Golgi intermediate compartment. Found in extracellular membrane particles in various body fluids such as cerebrospinal fluid, saliva, seminal fluid and urine.



Immunohistochemical analysis of paraffin-embedded human pancreatic carcinoma tissue labelling CD133 with ab278053 at 1:1000 dilution (0.5 µg/ml), followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)). Positive staining on human pancreatic carcinoma is observed. The section was incubated with ab278053 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB ([ab209101](#)).

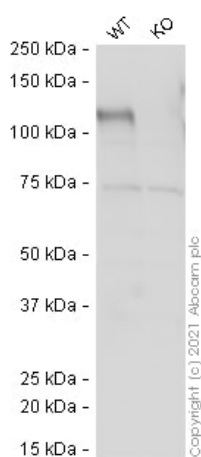
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



IHC image of CD133 staining in a section of frozen normal human tonsil* performed on a Leica BOND™ system using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab278053, 1 µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



Western blot - Anti-CD133 antibody [RM1002] - Stem Cell Marker (ab278053)

All lanes : Anti-CD133 antibody [RM1002] - Stem Cell Marker (ab278053) at 1/1000 dilution

Lane 1 : Wild-type HAP1 cell lysate

Lane 2 : PROM1 knockout HAP1 cell lysate

Lysates/proteins at 40 µg per lane.

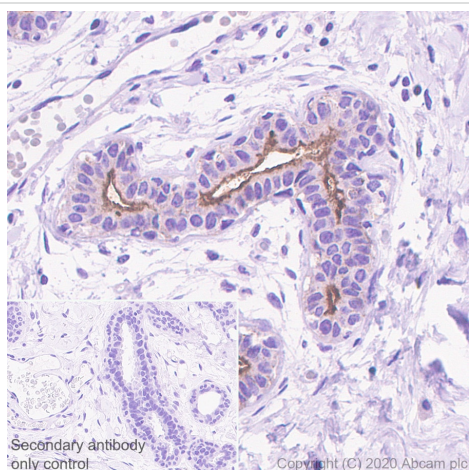
Performed under reducing conditions.

Predicted band size: 97 kDa

Observed band size: 120 kDa

Exposure time: 20 seconds

ab278053 was shown to react with PROM1 in wild-type HAP1 cells in western blot. Loss of signal was observed when PROM1 knockout sample was used. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab278053 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 Optiblot ECL reagent ([ab133456](#)) and imaging.

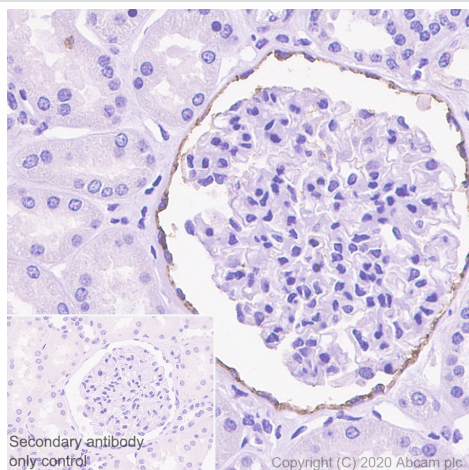


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1002] - Stem Cell Marker (ab278053)

Immunohistochemical analysis of paraffin-embedded human mammary gland tissue labeling CD133 with ab278053 at 1/1000 (0.5 µg/ml) dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Apical staining on human mammary gland (PMID: 18261235). The section was incubated with ab278053 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 Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

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

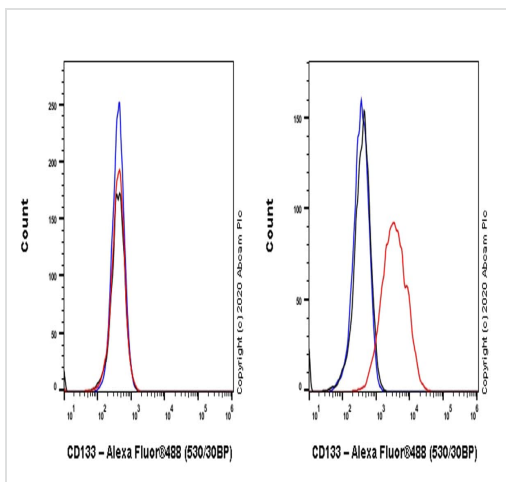


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD133 antibody [RM1002] - Stem Cell Marker (ab278053)

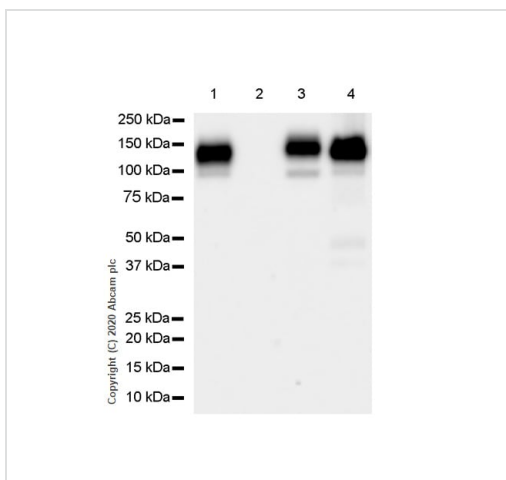
Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling CD133 with ab278053 at 1/1000 (0.5 µg/ml) dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on Bowman's capsule of human kidney (PMID: 19875807). The section was incubated with ab278053 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 Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

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



Flow Cytometry - Anti-CD133 antibody [RM1002] - Stem Cell Marker (ab278053)



Western blot - Anti-CD133 antibody [RM1002] - Stem Cell Marker (ab278053)

Flow cytometric analysis of HEK-293T (Human embryonic kidney epithelial cell, Left panel) / Caco-2 (Human colorectal adenocarcinoma epithelial cell, Right panel) using ab278053 at 1/500 dilution (0.1 µg) (Red). Mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti mouse IgG (Alexa Fluor® 488, [ab150077](#)) at 1/2000 dilution was used as the secondary antibody.

Negative control: HEK-293T. (PMID 20167130)

Gated on viable cells.

All lanes : Anti-CD133 antibody [RM1002] - Stem Cell Marker (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

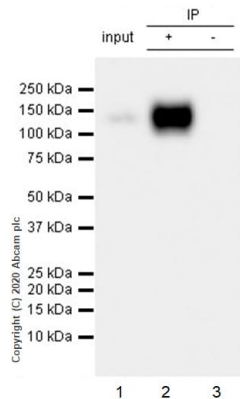
Observed band size: 120 kDa

Exposure time: 26 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

Negative control: HEK-293T (PMID 20167130).

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



Immunoprecipitation - Anti-CD133 antibody
[RM1002] - Stem Cell Marker (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.

Why choose a recombinant antibody?



Anti-CD133 antibody [RM1002] - Stem Cell Marker
(ab278053)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you

- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.cn/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors