abcam

Product datasheet

Anti-CD13 antibody [EPR4059] ab108382

KO VALIDATED Recombinant RabMAb

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Overview

Product name	Anti-CD13 antibody [EPR4059]
Description	Rabbit monoclonal [EPR4059] to CD13
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IP, IHC-P **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: PANC1, HEK293, THP-1, U937, and A375 cell lysates. ICC/IF: A375 and THP-1 cells. IHC-P: Human kidney tissue
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Mouse: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	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. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR4059
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab108382 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/500. **For unpurified use at 1/50 - 1/100.**
WB		1/1000 - 1/10000. Detects a band of approximately 150 kDa (predicted molecular weight: 110 kDa).
IP		1/10 - 1/100.
IHC-P	★★★★★ (1)	1/750. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. Perform antigen retrieval before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. **For unpurified use at 1/100 - 1/250.**

Application notes Is unsuitable for Flow Cyt.

Target

Function Broad specificity aminopeptidase. Plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. May play a critical role in the pathogenesis of cholesterol gallstone disease. May be involved in the metabolism of regulatory peptides of diverse cell types including small intestinal and tubular epithelial cells, macrophages, granulocytes and synaptic membranes from the CNS. Found to cleave antigen peptides bound to major histocompatibility complex class II molecules of presenting cells and to degrade neurotransmitters at synaptic junctions. Is also implicated as a regulator of IL-8 bioavailability in the endometrium, and therefore may contribute to the regulation of angiogenesis. Is used as a marker for acute myeloid leukemia and plays a role in tumor invasion. In case of human coronavirus 229E (HCoV-229E) infection, serves as receptor for HCoV-229E spike glycoprotein. Mediates as well human cytomegalovirus (HCMV) infection.

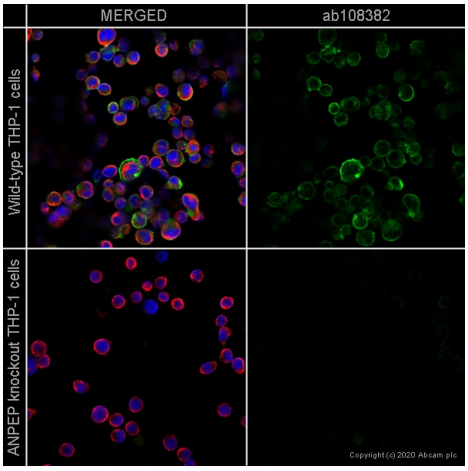
Tissue specificity Expressed in epithelial cells of the kidney, intestine, and respiratory tract; granulocytes, monocytes, fibroblasts, endothelial cells, cerebral pericytes at the blood-brain barrier, synaptic membranes of cells in the CNS. Also expressed in endometrial stromal cells, but not in the endometrial glandular cells. Found in the vasculature of tissues that undergo angiogenesis and in malignant gliomas and lymph node metastases from multiple tumor types but not in blood vessels of normal tissues. A soluble form has been found in plasma. It is found to be elevated in plasma and effusions of cancer patients.

Sequence similarities Belongs to the peptidase M1 family.

Domain Amino acids 260-353 are essential to mediate susceptibility to infection with HCoV-229E (in

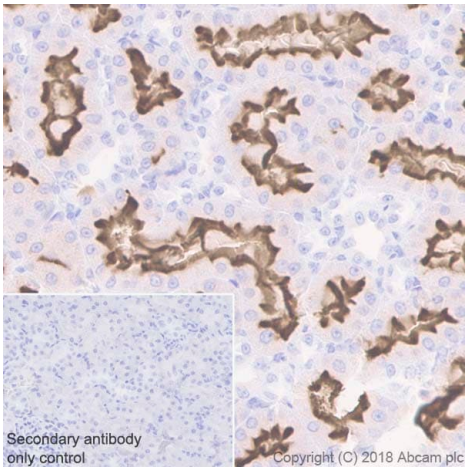
	porcine/human chimeric studies) and more specifically amino acids 288-295 (mutagenesis studies).
Post-translational modifications	Sulfated. N- and O-glycosylated. May undergo proteolysis and give rise to a soluble form.
Cellular localization	Cell membrane. Cytoplasm > cytosol. A soluble form has also been detected.

Images



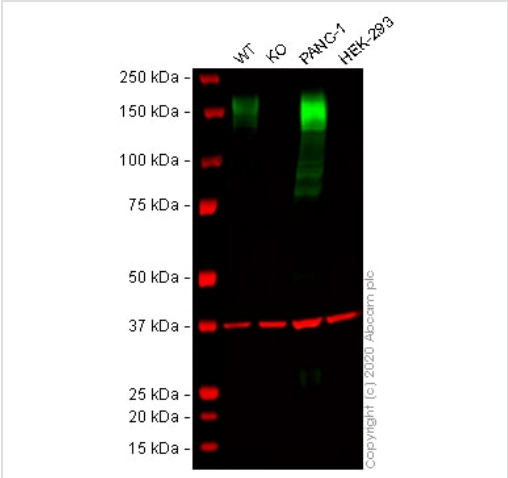
Immunocytochemistry/ Immunofluorescence - Anti-CD13 antibody [EPR4059] (ab108382)

ab108382 staining CD13 in wild-type THP-1 cells (top panel) and ANPEP knockout THP-1 cells (bottom panel) (**ab273759**). The cells were fixed with 100% methanol (5 min) then permeabilized with 0.1% 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 with ab108382 at 1/1000 dilution and **ab7291** (Mouse monoclonal to alpha Tubulin) at 1/1000 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to rabbit IgG (Alexa Fluor® 488) (**ab150081**) at 2 µg/ml (shown in green) and a goat secondary antibody to mouse IgG (Alexa Fluor® 594) (**ab150120**) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue sections labeling CD13 with Purified ab108382 at 1:750 dilution (0.5 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use). PBS instead of the primary antibody was used as the negative control.



Western blot - Anti-CD13 antibody [EPR4059] (ab108382)

All lanes : Anti-CD13 antibody [EPR4059] (ab108382) at 1/1000 dilution

Lane 1 : Wild-type THP-1 cell lysate
Lane 2 : ANPEP knockout THP-1 cell lysate
Lane 3 : PANC-1 cell lysate
Lane 4 : HEK-293 cell lysate

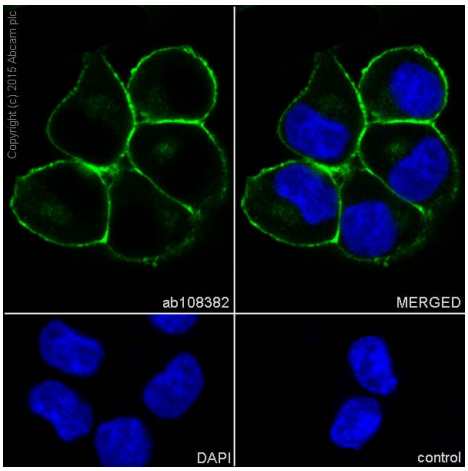
Lysates/proteins at 30 µg per lane.

Performed under reducing conditions.

Predicted band size: 110 kDa
Observed band size: 160 kDa

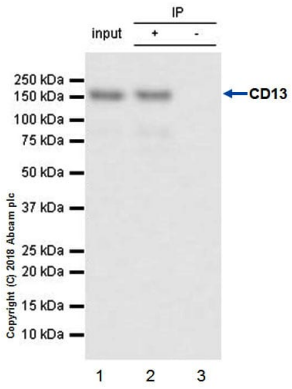
Lanes 1 - 4: Merged signal (red and green). Green - ab108382 observed at 160 kDa. Red - loading control **ab8245** (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.

ab108382 was shown to react with CD13 in wild-type THP-1 cells in western blot with loss of signal observed in ANPEP knockout cell line **ab273759** (knockout cell lysate **ab275505**). Wild-type and ANPEP knockout THP-1 cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with ab108382 and **ab8245** (Mouse anti-GAPDH antibody [6C5]) overnight at 4°C at a 1 in 1000 dilution 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.



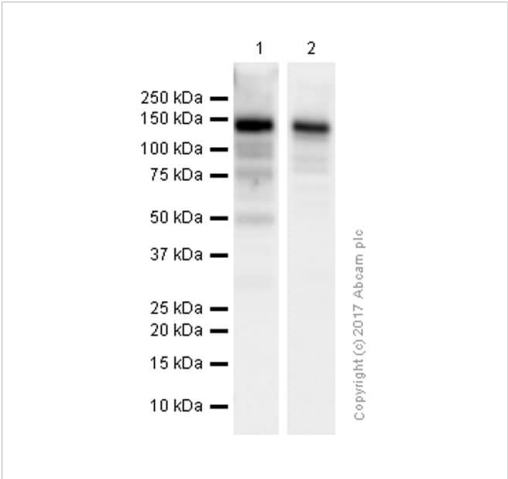
Immunocytochemistry/ Immunofluorescence - Anti-CD13 antibody [EPR4059] (ab108382)

Immunocytochemistry/ Immunofluorescence analysis of A375 (human malignant melanoma epithelial cell) cells labeling CD13 with purified ab108382 at 1:500 (0.7 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with None. Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunoprecipitation - Anti-CD13 antibody [EPR4059] (ab108382)

ab108382 (purified) at 1:20 dilution (2ug) immunoprecipitating in THP-1 whole cell lysate. THP-1 (Human monocytic leukemia monocyte) whole cell lysate 10ug
Lane 2 (+): ab108382 & THP-1 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab108382 in THP-1 whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.



Western blot - Anti-CD13 antibody [EPR4059] (ab108382)

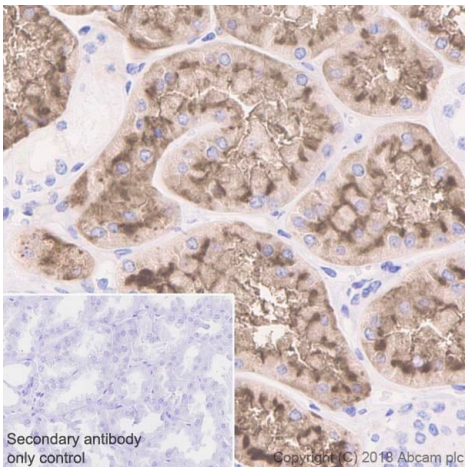
All lanes : Anti-CD13 antibody [EPR4059] (ab108382) at 1/1000 dilution

Lane 1 : Rat lung lysates
Lane 2 : A375 (Human malignant melanoma epithelial cell) whole cell lysates

Lysates/proteins at 20 µg per lane.

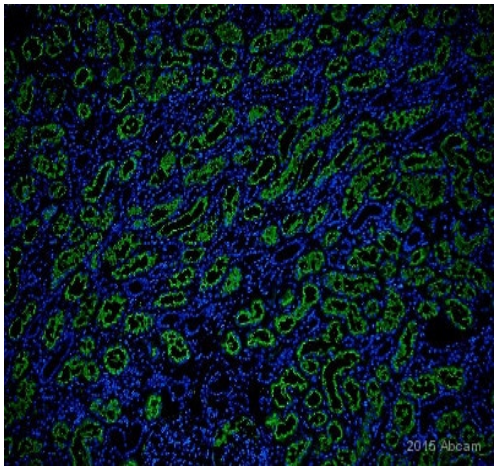
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

Predicted band size: 110 kDa
Observed band size: 150 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

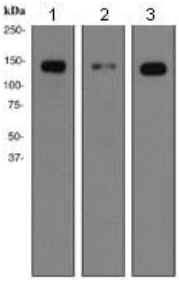
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling CD13 with purified ab108382 at 1:750 dilution (0.5 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use). PBS instead of the primary antibody was used as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

This image is courtesy of an anonymous abreview.

Unpurified ab108382 staining CD13 in human kidney tissue sections by Immunohistochemistry (Formaldehyde/PFA-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde, permeabilized with 0.05% tween-20 and blocked for 60 minutes at 25°C. Antigen retrieval was by heat mediation. Samples were incubated with primary antibody at a dilution of 1/400 for 1 hour at 25°C. An Alexa Flour® 488-conjugated donkey anti-rabbit IgG polyclonal (1/1200) was used as the secondary antibody.



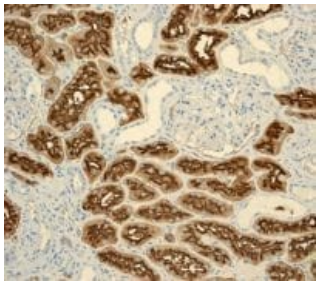
Western blot - Anti-CD13 antibody [EPR4059] (ab108382)

All lanes : Anti-CD13 antibody [EPR4059] (ab108382) at 1/1000 dilution (unpurified)

Lane 1 : THP-1 cell lysate
Lane 2 : U937 cell lysate
Lane 3 : A375 cell lysate

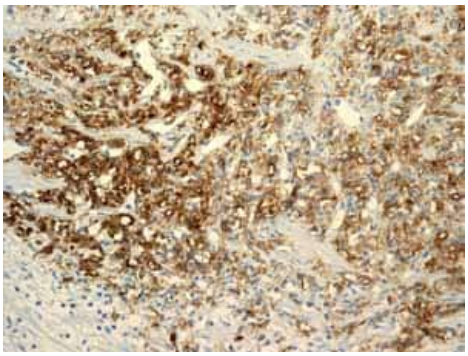
Lysates/proteins at 10 µg per lane.

Predicted band size: 110 kDa
Observed band size: 150 kDa



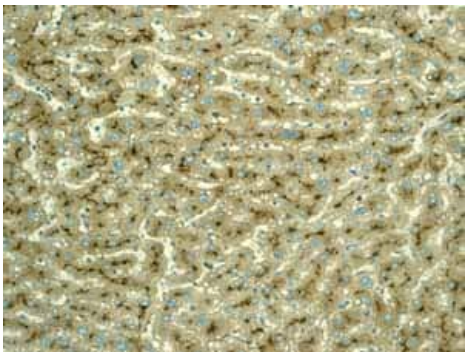
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Immunohistochemical staining of paraffin-embedded Human kidney tissue using unpurified ab108382 at a dilution of 1/100.



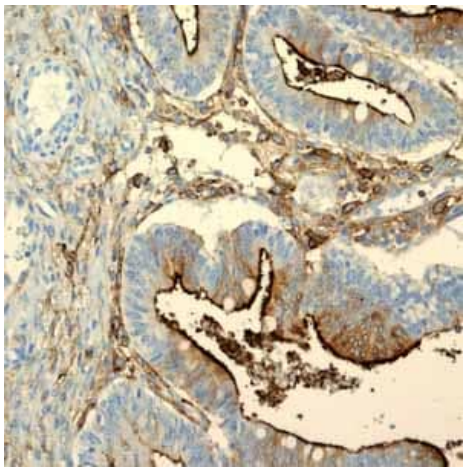
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Unpurified ab108382 showing positive staining in human Prostatic carcinoma tissue.



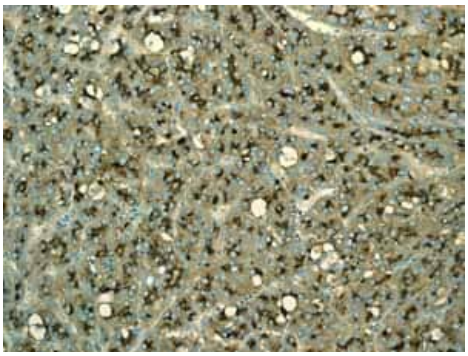
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Unpurified ab108382 showing positive staining in human Normal liver tissue.



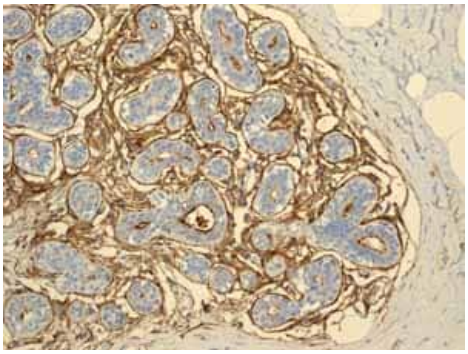
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Unpurified ab108382 showing positive staining in human Ovarian carcinoma tissue.



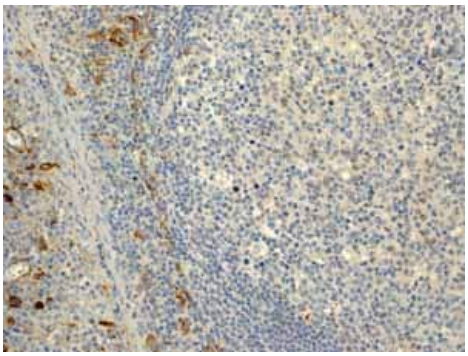
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Unpurified ab108382 showing positive staining in human Hepatocellular carcinoma tissue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Unpurified ab108382 showing positive staining in Normal human breast tissue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4059] (ab108382)

Unpurified ab108382 showing positive staining in Normal human tonsil tissue.

Anti-CD13 antibody [EPR4059] (ab108382)

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