

Product datasheet

Anti-CD13 antibody [EPR4058] ab108310

KO VALIDATED Recombinant RabMAb

★★★★☆ 10 Abreviews 14 References 21 Images

Overview

Product name	Anti-CD13 antibody [EPR4058]
Description	Rabbit monoclonal [EPR4058] to CD13
Host species	Rabbit
Tested applications	Suitable for: ICC, WB, IHC-P Unsuitable for: Flow Cyt or IP
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: THP-1, HAP1, PANC-1 and HeLa cell lysate. Mouse and rat kidney lysates; IHC-P: Human kidney, liver, hepatocellular carcinoma, prostatic carcinoma, astrocytoma and breast tissues; mouse and rat kidney tissues; ICC: THP-1 cells.
General notes	<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> <p>We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.</p>

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.
Storage buffer	pH: 7.20

Preservative: 0.01% Sodium azide
Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA

Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR4058
Isotype	IgG

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab108310 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	★★★★★ (1)	1/100.
WB		1/1000 - 1/10000. Predicted molecular weight: 110 kDa.
IHC-P	★★★★★ (6)	1/1600. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. See IHC antigen retrieval protocols . For unpurified use at 1/250 - 1/500.

Application notes Is unsuitable for Flow Cyt or IP.

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

Post-translational modifications

studies).

Sulfated.

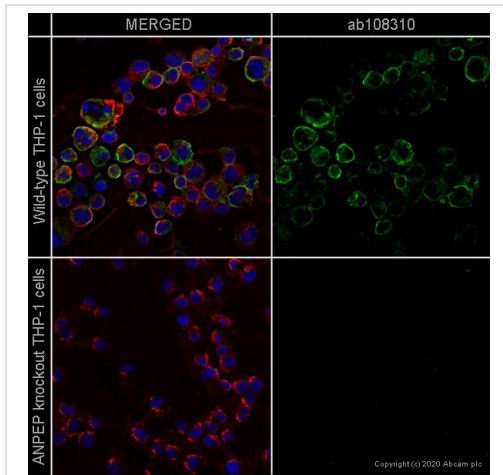
N- and O-glycosylated.

May undergo proteolysis and give rise to a soluble form.

Cellular localization

Cell membrane. Cytoplasm > cytosol. A soluble form has also been detected.

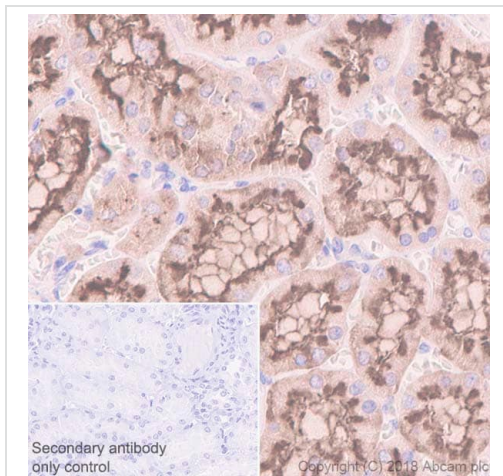
Images



Immunocytochemistry - Anti-CD13 antibody
[EPR4058] (ab108310)

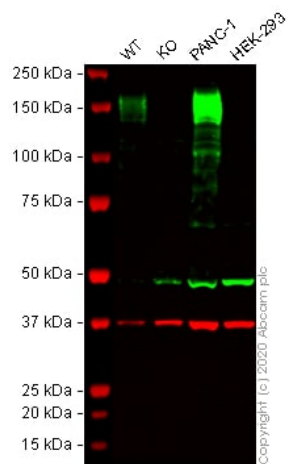
ab108310 staining CD13 in wild-type THP-1 cells (top panel) and ANPEP knockout THP-1 cells (bottom panel) ([ab273759](#)). The cells were fixed with 4% paraformaldehyde (10 min) then permeabilized with 0.1% Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab108310 at 1/500 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
[EPR4058] (ab108310)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling CD13 with purified ab108310 at 1/1600 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using [ab93684](#) (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-CD13 antibody [EPR4058] (ab108310)

All lanes : Anti-CD13 antibody [EPR4058] (ab108310) 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.

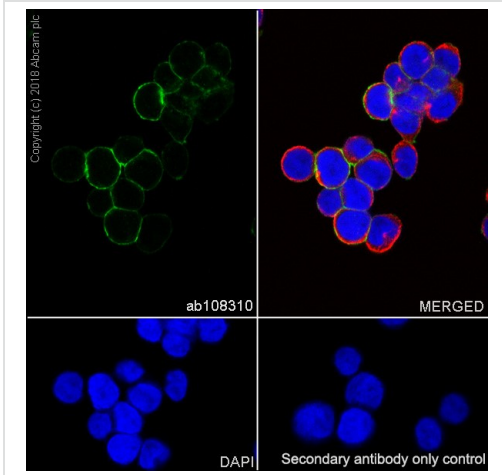
Performed under reducing conditions.

Predicted band size: 110 kDa

Observed band size: 160 kDa

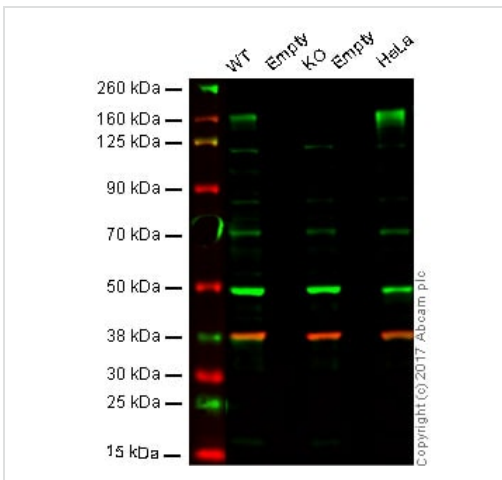
Lanes 1 - 4: Merged signal (red and green). Green - ab108310 observed at 160 kDa. Red - loading control [ab8245](#) (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.

ab108310 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 fluorescent western blot (TBS-based) blocking solution before incubation with ab108310 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 - Anti-CD13 antibody
[EPR4058] (ab108310)

Confocal image showing membranous staining in THP-1 cells ab108310 (purified) at 1/100 staining CD13 in the THP-1 (human monocytic leukemia monocyte) cell line by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 100% methanol. Samples were incubated with primary antibody 1/500. [ab150077](#) An Alexa Fluor® 488-conjugated Goat anti-Rabbit IgG at 1/1000 was used as the secondary antibody. Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 was used as a counter stain and DAPI was used as a nuclear counter stain.



Western blot - Anti-CD13 antibody [EPR4058]
(ab108310)

Lane 1: Wild type HAP1 whole cell lysate (20 µg)

Lane 2: Empty

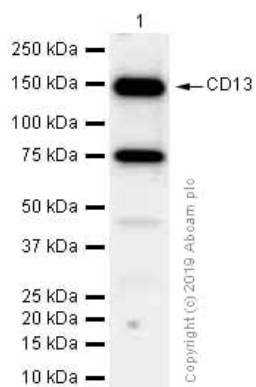
Lane 3: CD13 knockout HAP1 whole cell lysate (20 µg)

Lane 4: Empty

Lane 5: HeLa whole cell lysate (20 µg)

Lanes 1 - 5: Merged signal (red and green). Green - ab108310 (unpurified) observed at 160 kDa. Red - loading control, [ab18058](#), observed at 130 kDa.

ab108310 was shown to recognize CD13 when CD13 knockout samples were used, along with additional cross-reactive bands. Wild-type and CD13 knockout samples were subjected to SDS-PAGE. Ab108310 and [ab18058](#) (Mouse anti Vinculin loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/10000 dilution respectively. Blots were developed 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 1/10000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-CD13 antibody [EPR4058]
(ab108310)

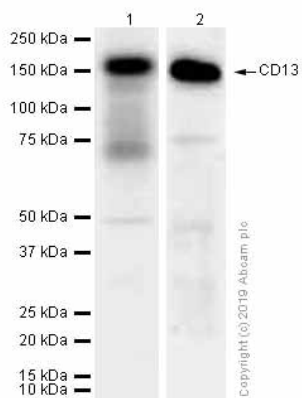
Anti-CD13 antibody [EPR4058] (ab108310) at 1/20000 dilution
(Purified) + Mouse kidney lysates at 15 μ g

Secondary

Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 110 kDa

Observed band size: 150 kDa



Western blot - Anti-CD13 antibody [EPR4058]
(ab108310)

All lanes : Anti-CD13 antibody [EPR4058] (ab108310) at 1/5000 dilution (Purified)

Lane 1 : THP-1 (Human monocytic leukemia monocyte) whole cell lysates

Lane 2 : Rat kidney lysates

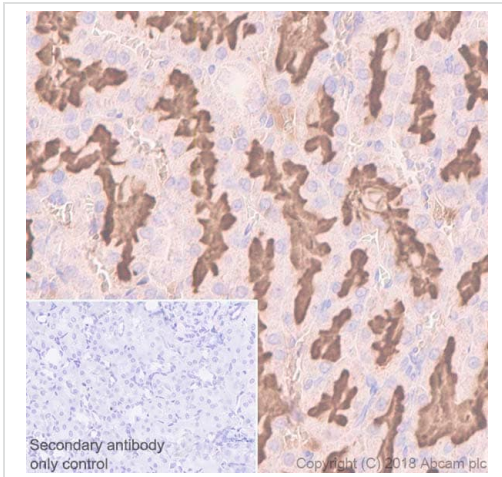
Lysates/proteins at 15 μ g per lane.

Secondary

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

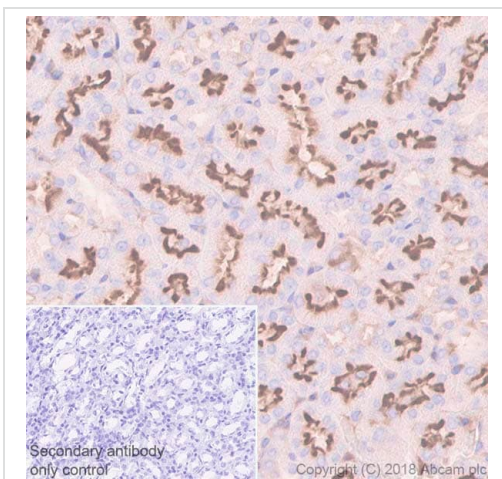
Predicted band size: 110 kDa

Observed band size: 150 kDa



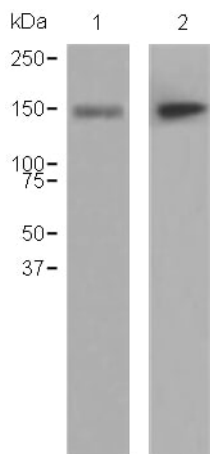
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue sections labeling CD13 with purified ab108310 at 1/1600 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using [ab93684](#) (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse kidney tissue sections labeling CD13 with purified ab108310 at 1/1600 dilution (0.43 µg/ml). Heat mediated antigen retrieval was performed using [ab93684](#) (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)



Western blot - Anti-CD13 antibody [EPR4058] (ab108310)

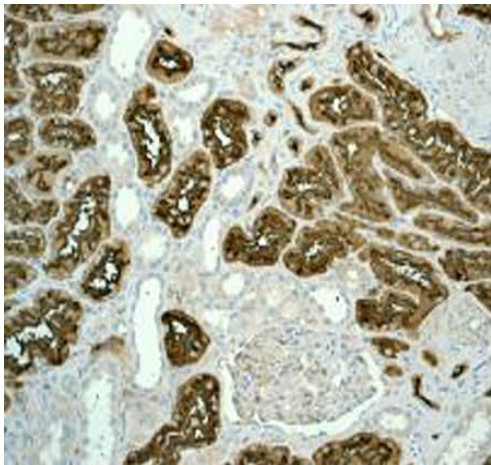
All lanes : Anti-CD13 antibody [EPR4058] (ab108310) at 1/1000 dilution (unpurified)

Lane 1 : THP-1 cell lysate at 10 µg

Lane 2 : human fetal liver lysate

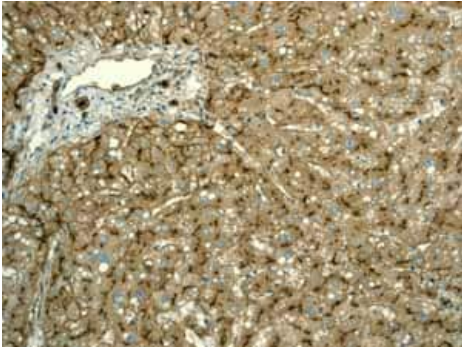
Performed under reducing conditions.

Predicted band size: 110 kDa



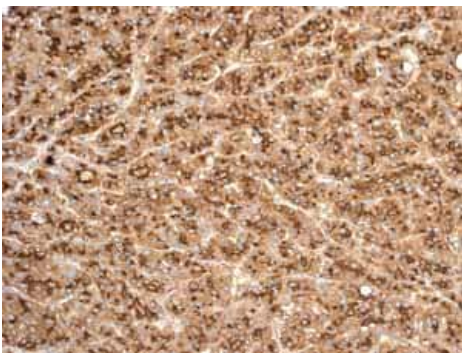
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified), at 1/250, staining CD13 in human kidney tissue by immunohistochemistry. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



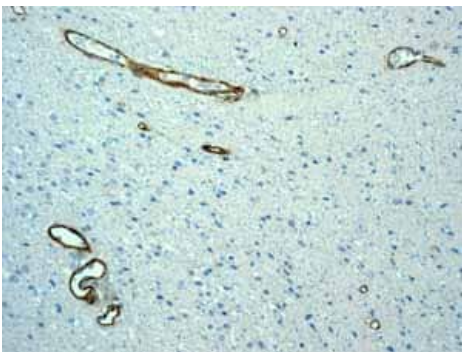
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human normal liver tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



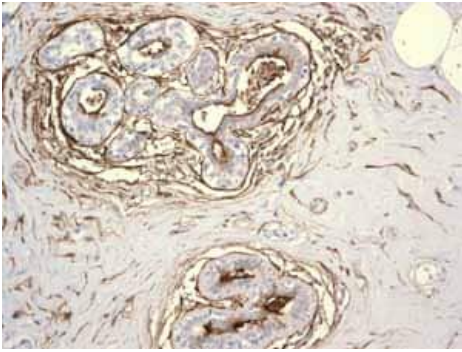
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human hepatocellular carcinoma tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



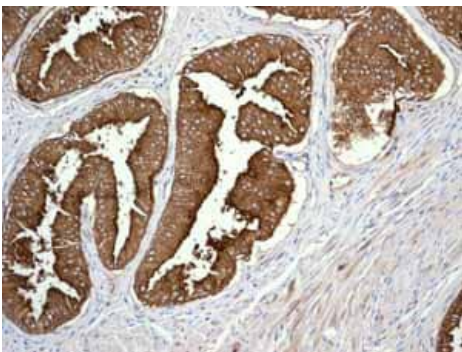
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human astrocytoma tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



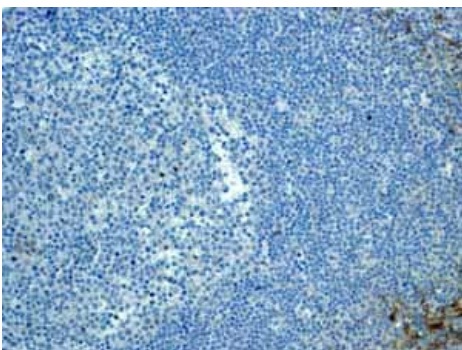
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human normal breast tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



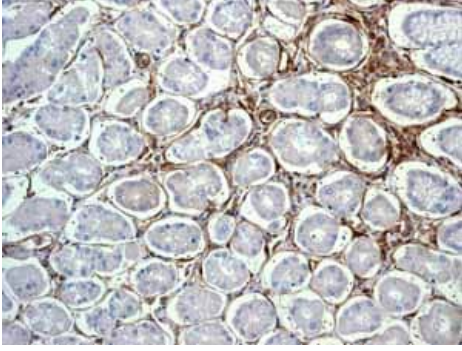
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human prostatic carcinoma tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



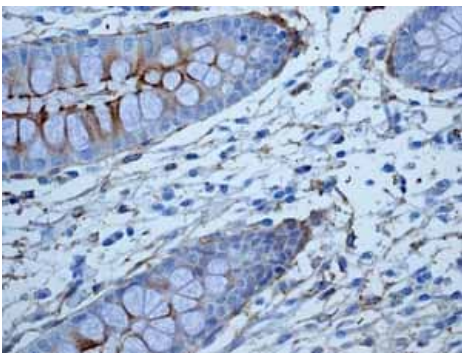
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human normal tonsil tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



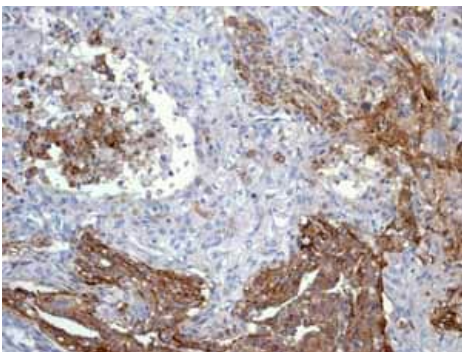
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human normal stomach tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human normal colon tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [EPR4058] (ab108310)

ab108310 (unpurified) showing positive staining in human lung adenocarcinoma tissue. Heat mediated antigen retrieval was performed using citrate buffer pH 6 before commencing with IHC staining protocol.

Why choose a recombinant antibody?

Research with confidence
Consistent and reproducible results

Long-term and scalable supply
Recombinant technology

Success from the first experiment
Confirmed specificity

Ethical standards compliant
Animal-free production

Anti-CD13 antibody [EPR4058] (ab108310)

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

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