abcam

Product datasheet

Anti-CD13 antibody [SP187] ab227663

KO VALIDATED Recombinant RabMAb

1 References 17 Images

Overview

Product name	Anti-CD13 antibody [SP187]
Description	Rabbit monoclonal [SP187] to CD13
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IHC-P **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Human **Predicted to work with:** Rabbit
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: THP-1, PANC-1, HEK293 and U937 cell lysate. IHC-P: Human kidney, tonsil, spleen, thymus, lung, liver, placenta, bladder, bone marrow, reactive lymph node, HK lymphoma and B-cell lymphoma tissues. ICC/IF: THP-1 cells
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**. **This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.**

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: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified

Purification notes	Purified from TCS by protein A/G.
Clonality	Monoclonal
Clone number	SP187
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab227663 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		1/25.
WB		1/400. Predicted molecular weight: 109 kDa.
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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.

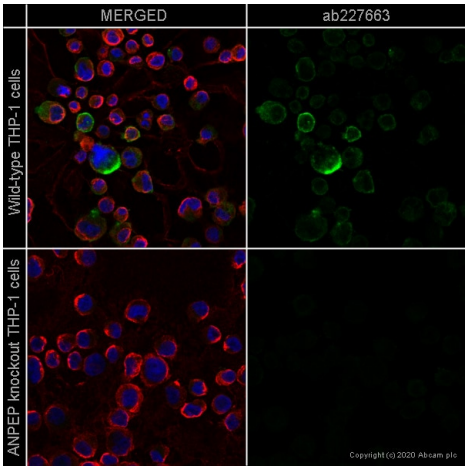
Sequence similarities Belongs to the peptidase M1 family.

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.

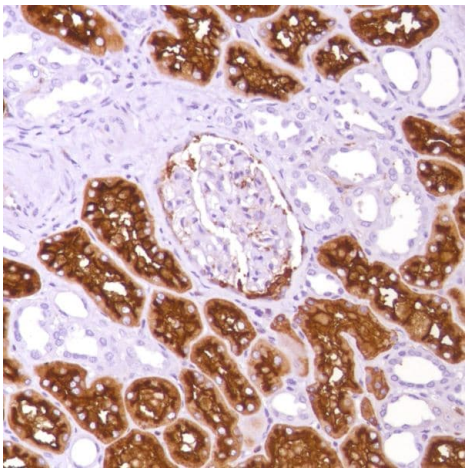
Cellular localization	Cell membrane. Cytoplasm > cytosol. A soluble form has also been detected.

Images



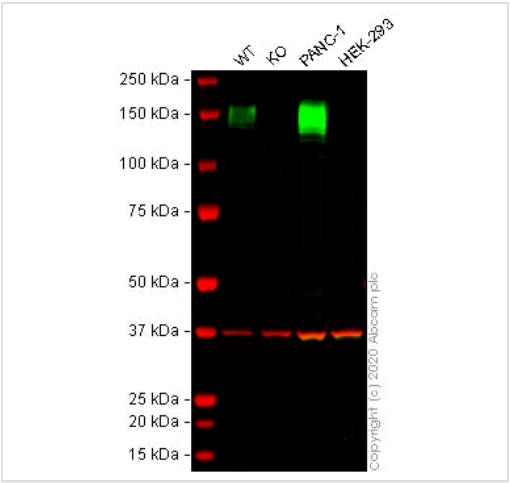
Immunocytochemistry/ Immunofluorescence - Anti-CD13 antibody [SP187] (ab227663)

ab227663 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 ab227663 at 1µg/ml concentration 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 [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human kidney tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



Western blot - Anti-CD13 antibody [SP187] (ab227663)

All lanes : Anti-CD13 antibody [SP187] (ab227663) at 1/400 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

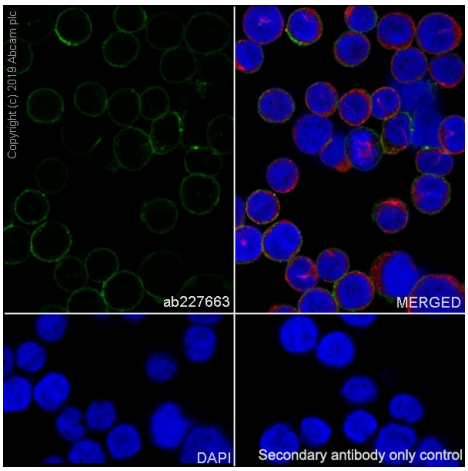
Lysates/proteins at 30 µg per lane.

Performed under reducing conditions.

Predicted band size: 109 kDa
Observed band size: 160 kDa

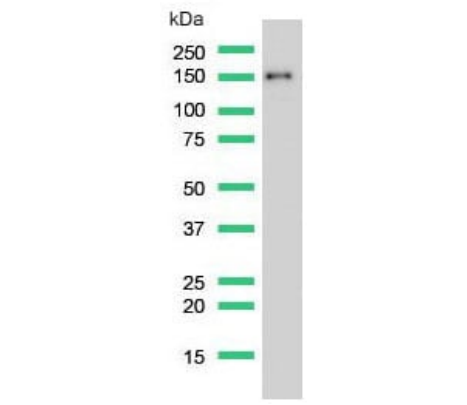
Lanes 1 - 4: Merged signal (red and green). Green - ab227663 observed at 160 kDa. Red - loading control **ab8245** (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.

ab227663 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 ab227663 and **ab8245** (Mouse anti-GAPDH antibody [6C5]) overnight at 4°C at a 1 in 400 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 [SP187] (ab227663)

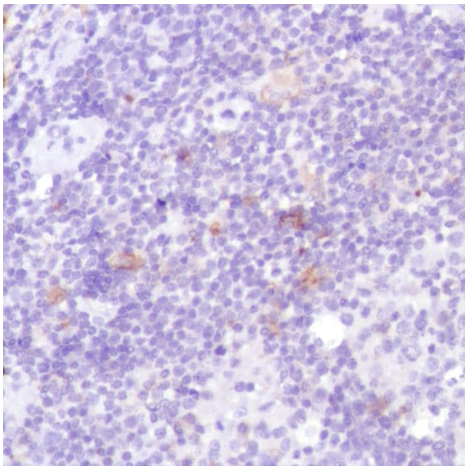
Immunocytochemistry/ Immunofluorescence analysis of THP-1 (human monocytic leukemia monocyte) cells labeling CD13 with purified ab227663 at 1/25 (5.32µg/ml). Cells were fixed in 100% Methanol. Cells were counterstained with **ab195889** Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Western blot - Anti-CD13 antibody [SP187] (ab227663)

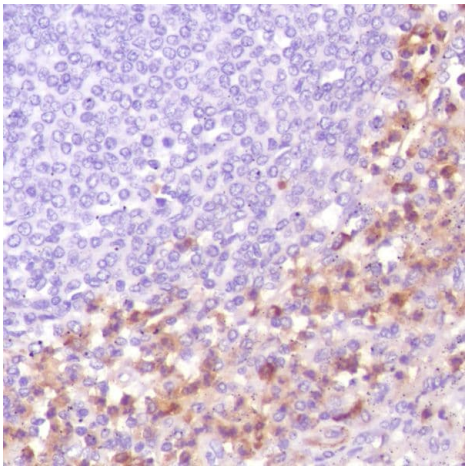
Anti-CD13 antibody [SP187] (ab227663) at 1/400 dilution + U937 (human histiocytic lymphoma cell line) cell lysate

Predicted band size: 109 kDa



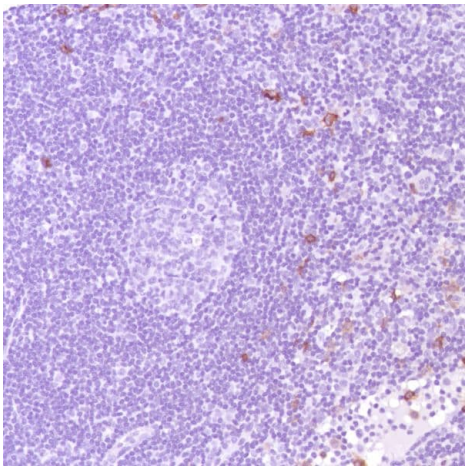
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human tonsil tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



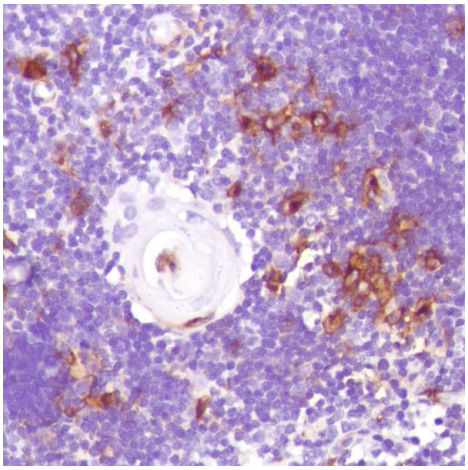
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human spleen tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



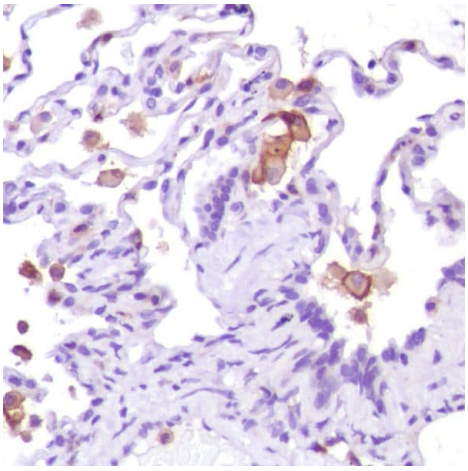
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human reactive lymph node tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



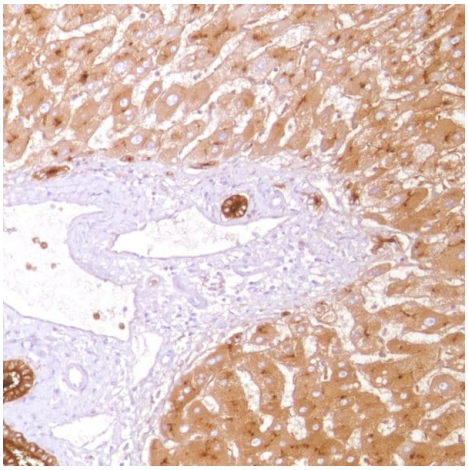
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human thymus tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



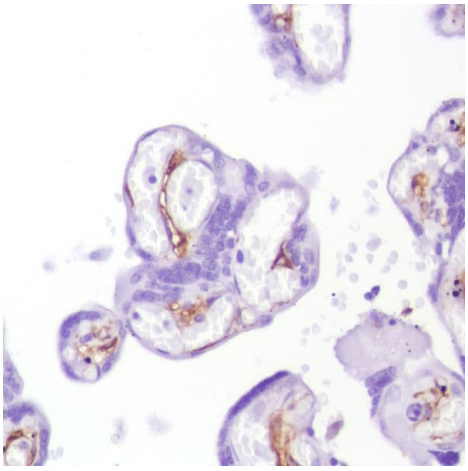
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human lung tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



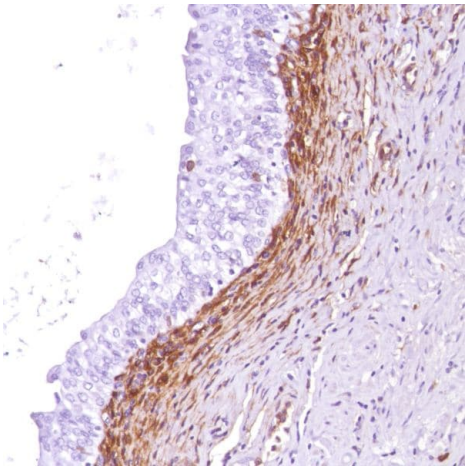
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human liver tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



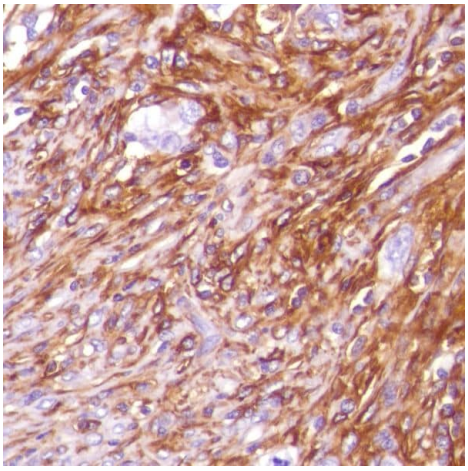
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human placenta tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



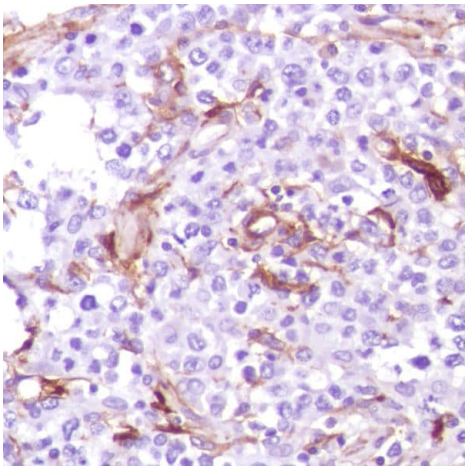
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human bladder tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



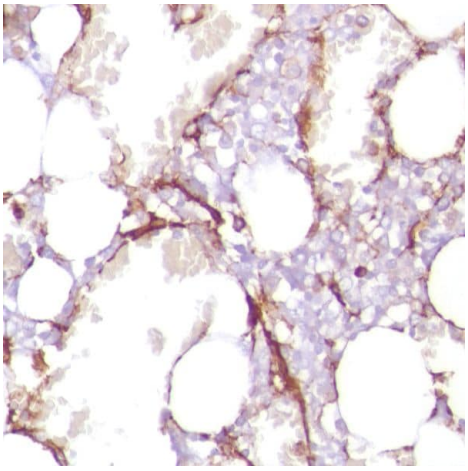
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human HK lymphoma tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



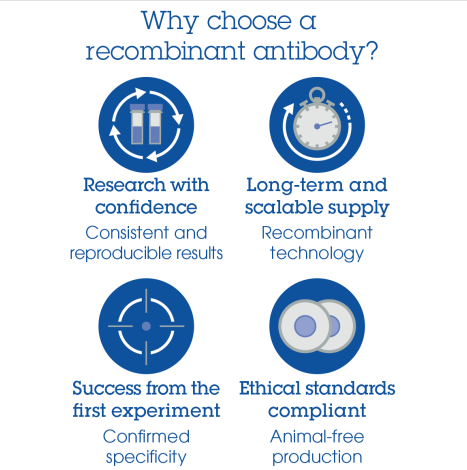
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human B-cell lymphoma tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD13 antibody [SP187] (ab227663)

Formalin-fixed, paraffin-embedded human bone marrow tissue stained for CD13 using ab227663 at 1/100 dilution in immunohistochemical analysis.



Anti-CD13 antibody [SP187] (ab227663)

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