abcam

ab243934

Anti-CD10 antibody [SP179] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	SP179
Purification technique	Affinity purification Protein A/G
Concentration	1.069 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

WB

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

IHC-P

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Species	Mouse
Dilution info	1/20
Notes	-

Species	Rat
Dilution info	1/20
Notes	-

Target data

See full target information MME

Function	Thermolysin-like specificity, but is almost confined on acting on polypeptides of up to 30 amino acids (PubMed:15283675, PubMed:6208535, PubMed:6349683,

PubMed:8168535). Biologically important in the destruction of opioid peptides such as Met- and Leu-enkephalins by cleavage of a Gly-Phe bond (PubMed:17101991, PubMed:6349683). Catalyzes cleavage of bradykinin, substance P and neurotensin peptides (PubMed:6208535). Able to cleave angiotensin-1, angiotensin-2 and angiotensin 1-9 (PubMed:15283675, PubMed:6349683). Involved in the degradation of atrial natriuretic factor (ANF) and brain natriuretic factor (BNP(1-32)) (PubMed:16254193, PubMed:2531377, PubMed:2972276). Displays UV-inducible elastase activity toward skin preelastic and elastic fibers (PubMed:20876573).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab243934 is the carrier-free version of ab227659.
What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD10 also known as neprilysin or neutral endopeptidase is a zinc-dependent metalloprotease enzyme with a mass of approximately 100 kDa. This enzyme is expressed across a variety of tissues including kidney lung and neutrophils. Its expression is also notable in the lymphoid tissues. CD10 functions by cleaving peptides at the N-terminal of hydrophobic residues. Common names used in literature for CD10 include CALLA (common acute lymphoblastic leukemia antigen) and membrane metalloendopeptidase.
Biological function summary	CD10 regulates peptide signaling by inactivating various bioactive peptides such as enkephalins atrial natriuretic peptide and bradykinin. It does not function as part of a complex but rather as a standalone entity. The ability of CD10 to hydrolyze peptides influences signal transmission across cellular membranes impacting cellular communication and signal termination within different systems.
Pathways	Neprilysin plays an essential role in hydrolyzing signaling peptides in several critical pathways. It is especially significant in the natriuretic peptide system and the renin-angiotensin system maintaining blood pressure and fluid balance. Within these pathways CD10 modifies peptides working alongside proteins like atrial natriuretic peptide synthase and angiotensin-converting enzyme ensuring systemic homeostasis and cardiovascular health.
Associated diseases and disorders	CD10 shows a significant connection to certain types of cancer and Alzheimer's disease. In oncology altered expression of CD10 serves as a CD10 marker in cancers such as lymphomas and some leukemia forms which helps in diagnosis and treatment decisions. Additionally CD10's involvement in neuropeptide degradation links it to Amyloid beta peptide accumulation in Alzheimer's where its dysregulation may promote disease progression. Related proteins are amyloid precursor protein in Alzheimer's and CD19 often co-expressed with CD10 in some lymphomas highlighting its role in both diagnostic and therapeutic contexts.

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

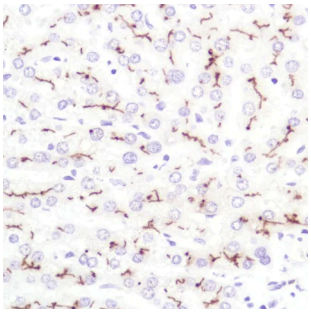
We do not recommend this combination. It is not covered by our product promise.

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.

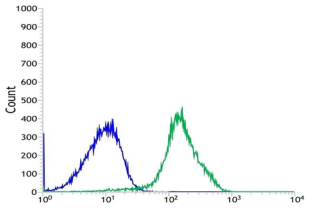
Full details and terms and conditions can be found here:
Terms & Conditions.

13 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

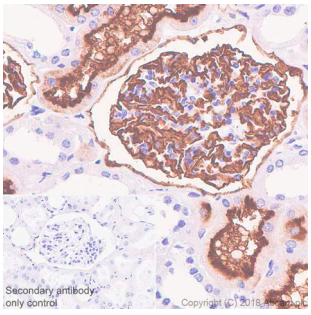
Formalin-fixed, paraffin-embedded human liver tissue stained for CD10 using ab227659 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab227659).



Flow Cytometry (Intracellular) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Flow Cytometry (Intracellular) staining using rabbit Anti-CD10 antibody

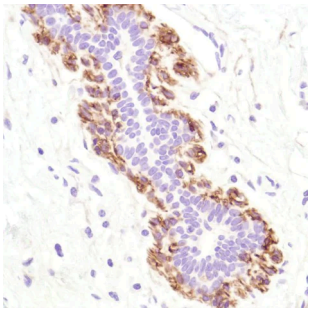
Intracellular flow cytometric analysis ofRamos (human Burkitt's lymphoma cell line) cell line labeling CD10 with ab227659 at 1/400 dilution (green) compared with a Rabbit IgG negative control (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab227659).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

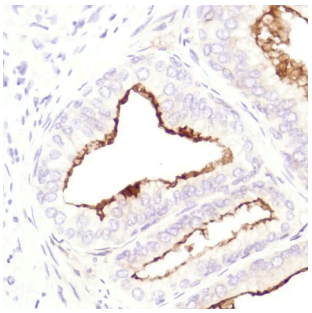
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human kidney tissue sections labeling CD10 with ab227659 at 1/100 dilution (1.41 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227659)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

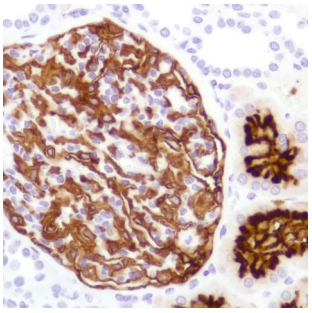
Formalin-fixed, paraffin-embedded human breast tissue stained for CD10 using ab227659 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab227659).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

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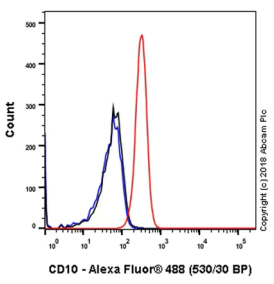
Formalin-fixed, paraffin-embedded human prostate tissue stained for CD10 using ab227659 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab227659).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

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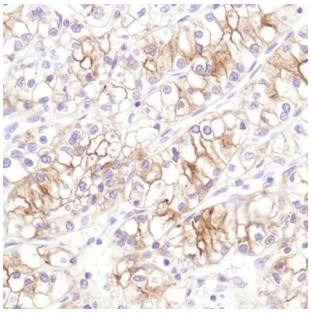
Formalin-fixed, paraffin-embedded human kidney tissue stained for CD10 using ab227659 at 1/100 dilution in immunohistochemical analysis.
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Flow Cytometry (Intracellular) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Flow Cytometry (Intracellular) staining using rabbit Anti-CD10 antibody

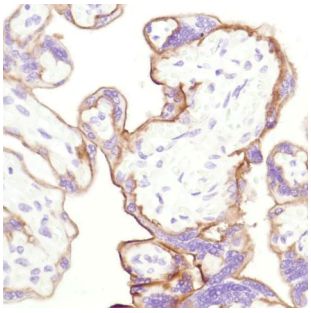
Intracellular Flow Cytometry analysis of Raji (Human Burkitt's lymphoma B lymphocyte) labeling CD10 with purified ab227659 at 1/20 dilution (7.05µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as a secondary antibody. Isotype control -Rabbit monoclonal IgG (ab172730) / Black. Unlableled control -Unlabelled cells / blue. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227659).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

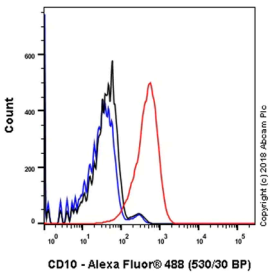
Formalin-fixed, paraffin-embedded human renal cell carcinoma tissue stained for CD10 using ab227659 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab227659).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

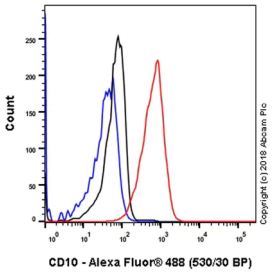
Formalin-fixed, paraffin-embedded human placenta tissue stained for CD10 using ab227659 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab227659).



Flow Cytometry (Intracellular) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Flow Cytometry (Intracellular) staining using rabbit Anti-CD10 antibody

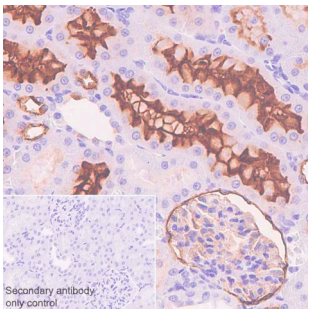
Intracellular Flow Cytometry analysis of WEHI-231 (Mouse B cell lymphoma B lymphocyte) labeling CD10 with purified ab227659 at 1/200 dilution (0.705µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as a secondary antibody. Isotype control -Rabbit monoclonal IgG (ab172730) / Black. Unlableled control -Unlabelled cells / blue. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227659).



Flow Cytometry (Intracellular) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Flow Cytometry (Intracellular) staining using rabbit Anti-CD10 antibody

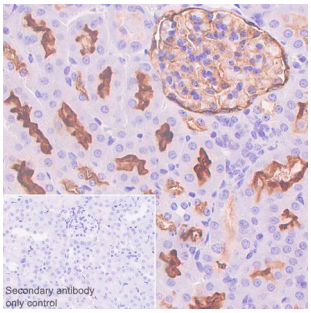
Intracellular Flow Cytometry analysis of 2.4G2 (Rat B cell lymphoma B lymphocyte) labeling CD10 with purified ab227659 at 1/200 dilution (0.705µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as a secondary antibody. Isotype control -Rabbit monoclonal IgG (ab172730) / Black. Unlableled control -Unlabelled cells / blue. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227659).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat kidney tissue sections labeling CD10 with ab227659 at 1/100 dilution (1.41 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227659)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP179] - BSA and Azide free (ab243934)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse kidney tissue sections labeling CD10 with ab227659 at 1/100 dilution (1.41 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227659)

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