abcam

ab157307

PerCP/Cy5.5® Anti-CD10 antibody [MEM-78]

Anti-CD10 antibody [MEM-78] conjugated to PerCP/Cy5.5® - suitable for flow cytometry, and reacts with human samples. Clone [MEM-78] is a mouse monoclonal antibody cited in 4 publications.

Design your panel with our interactive flow cytometry panel builder. Click here.

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PerCP/Cy5.5®
Excitation/Emission	Ex: 482nm, Em: 695nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing MME protein. The exact immunogen used to generate this antibody is proprietary information. Database link P08473
Clone number	MEM-78
Purification technique	Size-exclusion chromatography

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells

Notes	Use 4 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension.

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

Notes

Purified antibody is conjugated with tandem dye PerCP/Cy5.5® under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.

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

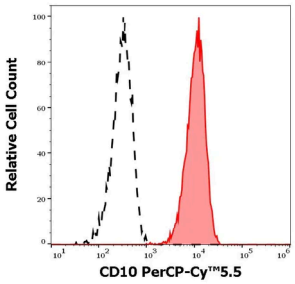
We do not recommend this combination. It is not covered by our product promise.

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.

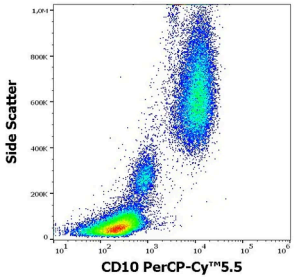
2 product images



Flow Cytometry - PerCP/Cy5.5® Anti-CD10 antibody [MEM-78] (ab157307)

CD10 Flow Cytometry staining of Human peripheral blood using mouse Anti-CD10 antibody

Separation of human neutrophil granulocytes (red-filled) from 10 negative lymphocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using ab157307 (4 µl reagent / 100 µl of peripheral whole blood).



Flow Cytometry - PerCP/Cy5.5® Anti-CD10 antibody [MEM-78] (ab157307)

CD10 Flow Cytometry staining of Human peripheral blood using mouse Anti-CD10 antibody

Flow cytometry surface staining pattern of human peripheral whole blood stained using ab157307 (4 µl reagent / 100 µl of peripheral whole blood).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.