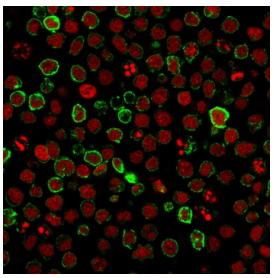
Neprilysin/CD10 Antibody / Membrane metalloendopeptidase [clone FR4D11] (V2716)

Catalog No.	Formulation	Size
V2716-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2716-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2716SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

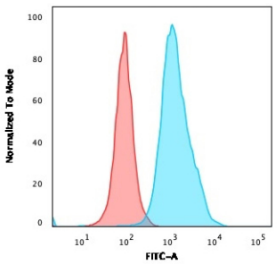
Citations (3)

Bulk quote request

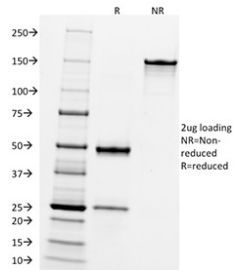
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	FR4D11
Purity	Protein G affinity chromatography
UniProt	P08473
Localization	Cell surface, Cytoplasmic
Applications	Flow cytometry: 1-2ug/million cells Immunofluorescence: 1-2ug/ml
Limitations	This Neprilysin/CD10 antibody is available for research use only.



Immunofluorescence analysis of Neprilysin/CD10 antibody (clone FR4D11) in human Ramos cells. Cells were stained with Neprilysin/CD10 antibody followed by goat anti-Mouse IgG conjugated to CF488 (green). Distinct membranous staining is observed outlining the cell surface, consistent with CD10 localization. Nuclei are counterstained with Reddot (red).



Flow cytometric analysis of CD10/Neprilysin antibody (clone FR4D11) in human Ramos cells. Cells were stained with Neprilysin/CD10 antibody (FR4D11) followed by goat anti-Mouse IgG conjugated to CF488. The specific antibody signal (blue histogram) shows a clear rightward shift compared to the isotype control (red histogram), indicating cell surface CD10 expression on Ramos cells.



SDS-PAGE Analysis of Purified, BSA-Free Neprilysin/CD10 Antibody (clone FR4D11). Confirmation of Integrity and Purity of the Antibody.

Description

Neprilysin/CD10 Antibody recognizes Neprilysin, also known as CD10, Membrane metalloendopeptidase, neutral endopeptidase, and the common acute lymphoblastic leukemia antigen (CALLA), a zinc-dependent type II transmembrane metalloprotease encoded by the MME gene. Neprilysin/CD10 antibody targets a cell surface glycoprotein that plays a central role in regulating extracellular peptide activity by proteolytic cleavage of signaling molecules in diverse tissues. Unlike purely structural markers, CD10 functions enzymatically to modulate the local microenvironment through controlled peptide degradation.

Neprilysin is predominantly localized to the plasma membrane, where its large extracellular catalytic domain contains a conserved zinc-binding motif required for endopeptidase activity. By cleaving peptides such as enkephalins, substance P, bradykinin, and natriuretic peptides, CD10 influences inflammatory signaling, vascular tone, and neuroendocrine communication. In normal human tissues, strong expression is observed on the brush border of renal proximal tubules, with additional expression in select epithelial cells, endometrial stromal cells, and subsets of hematopoietic precursors.

In hematopathology, Neprilysin/CD10 antibody is widely used in the evaluation of precursor B-cell acute lymphoblastic leukemia and germinal center-derived lymphomas, where CD10 expression supports lineage classification. In surgical pathology, CD10 is commonly assessed in renal cell carcinoma, endometrial stromal tumors, and certain breast and prostate carcinomas. The characteristic membranous staining pattern reflects the protein's cell surface distribution, although cytoplasmic reactivity may be observed depending on tissue processing and biologic context.

Beyond diagnostic utility, CD10 has gained attention in tumor biology due to its ability to shape the peptide landscape within the tumor microenvironment. Altered MME expression has been associated with changes in stromal remodeling, cellular differentiation, and growth factor signaling. Because Neprilysin directly regulates bioactive peptides, dysregulation can influence proliferation, apoptosis, and intercellular communication.

Neprilysin/CD10 Antibody provides a dependable reagent for detecting membranous CD10 expression in research applications. Clone FR4D11 is designed to recognize Neprilysin/CD10 in studies of renal biology, hematologic malignancies, epithelial tumors, and peptide-mediated signaling pathways.

Application Notes

Optimal dilution of the Neprilysin/CD10 antibody should be determined by the researcher.

Immunogen

Raji cells were used as the immunogen for the Neprilysin/CD10 antibody.

Storage

Store the Neprilysin/CD10 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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