

## DESCRIPTION

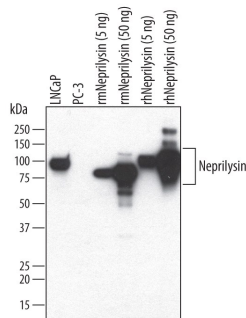
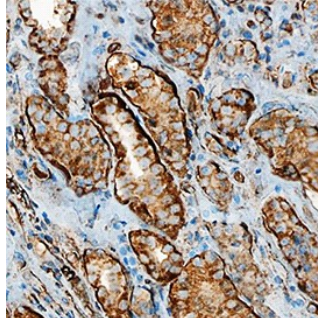
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Neprilysin/CD10 in ELISAs and Western blots. In sandwich ELISAs, approximately 20% cross-reactivity with recombinant mouse Neprilysin is observed, and less than 0.3% cross-reactivity with recombinant human Neprilysin-2 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human Neprilysin/CD10 Tyr52-Trp750 Accession # P08473
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	See Below
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	CD19 <sup>+</sup> human peripheral blood lymphocytes
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Neprilysin/CD10 (Catalog # 1182-ZNC), see our available <a href="#">Western blot detection antibodies</a>
<b>Human Neprilysin/CD10 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	0.2-0.8 µg/mL	Human Neprilysin/CD10 Antibody (Catalog # AF1182)
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Human Neprilysin/CD10 Biotinylated Antibody (Catalog # BAF1182)
<b>Standard</b>		Recombinant Human Neprilysin/CD10 (Catalog # 1182-ZNC)
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human and Mouse Neprilysin/CD10 by Western Blot.</b> Western blot shows lysates of LNCaP human prostate cancer cell line and PC-3 human prostate cancer cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Neprilysin/CD10 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1182) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). For additional reference, Recombinant Mouse Neprilysin (Catalog # 1126-ZN) (5 and 50 ng/lane) and Recombinant Human Neprilysin (CHO-expressed) (Catalog # 1182-ZNC) (5 and 50 ng/lane) were included. Specific bands were detected for Neprilysin/CD10 at approximately 100 kDa (as indicated). This experiment was conducted under reducing conditions and using <a href="#">Immunoblot Buffer Group 1</a>.</p>	<p><b>Immunohistochemistry</b></p>  <p><b>Neprilysin/CD10 in Human Kidney.</b> Neprilysin/CD10 was detected in immersion fixed paraffin-embedded sections of human kidney using Goat Anti-Human Neprilysin/CD10 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1182) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in epithelial cells. View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Neprilysin/CD10, also known as NEP and neutral endopeptidase 24.11, is a zinc metallopeptidase expressed at the cell surface of a variety of cells. The enzyme functions both as an endopeptidase with a thermolysin-like specificity and as a dipeptidylcarboxypeptidase. NEP has been shown to be involved in the degradation of enkephalins in the mammalian brain and the inactivation of circulating atrial natriuretic peptide (1, 2). NEP has also been identified as the common acute lymphocytic leukemia antigen (CALLA), and is expressed on the surface of lymphocytes in some disease states (3, 4). These and other observations have resulted in considerable interest in NEP as a target for analgesics and antihypertensive drugs. NEP is also a major degrading enzyme of amyloid  $\beta$  peptide ( $A\beta$ ) in the brain, indicating that down-regulation of NEP activity, which could be caused by aging, can contribute to the development of Alzheimer's disease by promoting  $A\beta$  accumulation (5).

## References:

1. Malfroy, B. *et al.* (1978) *Nature* **276**:523.
2. Kenny, A.J. and Stephenson, S.L. (1988) *FEBS Lett.* **232**:1.
3. LeTarte, M. *et al.* (1988) *J. Exp. Med.* **168**:1247.
4. Shipp, M.A. *et al.* (1988) *Proc. Natl. Acad. Sci. USA* **85**:4819.
5. Itwata, N. *et al.* (2001) *Science* **292**:1550.