# Human Neprilysin/CD10 Antibody

Monoclonal Mouse $IgG_{2B}$ Clone # 715823

Catalog Number: MAB11822

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human Neprilysin/CD10 in direct ELISAs. |
| **Source** | Monoclonal Mouse $IgG_{2B}$ Clone # 715823 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | Chinese hamster ovary cell line CHO-derived recombinant human Neprilysin/CD10<br>Tyr52-Trp750<br>Accession # P08473 |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS. |

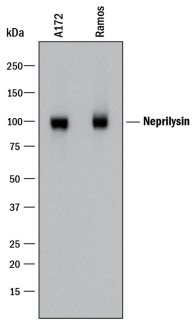
## APPLICATIONS

**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 |
|---|---|---|
| **Western Blot** | 1 µg/mL | See Below |
| **Immunohistochemistry** | 0.5-25 µg/mL | See Below |

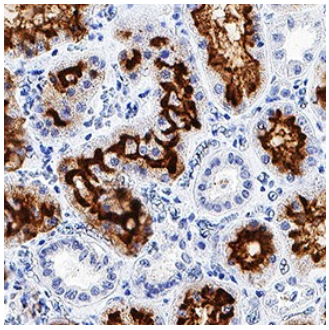
## DATA

### Western Blot




**Detection of Human Neprilysin/CD10 by Western Blot.** Western blot shows lysates of A172 human glioblastoma cell line and Ramos human Burkitt's lymphoma cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Neprilysin/CD10 Monoclonal Antibody (Catalog # MAB11822) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Neprilysin/CD10 at approximately 100 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### Immunohistochemistry



**Neprilysin/CD10 in Human Kidney.** Neprilysin/CD10 was detected in immersion fixed paraffin-embedded sections of human kidney using Mouse Anti-Human Neprilysin/CD10 Monoclonal Antibody (Catalog # MAB11822) at 0.5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cell surface in epithelial cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

## PREPARATION AND STORAGE

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|---|---|
| **Reconstitution** | Reconstitute at 0.5 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>• 12 months from date of receipt, -20 to -70 °C as supplied.<br>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>• 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

## 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 β peptide (Aβ) 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 Aβ 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.




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