Human Aminopeptidase N/CD13 Antibody

Monoclonal Mouse IgG_1 Clone # 986025

Catalog Number: MAB38151

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Aminopeptidase N/CD13 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 986025
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Aminopeptidase N/CD13 Lys69-Lys967 Accession # AAA51719
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

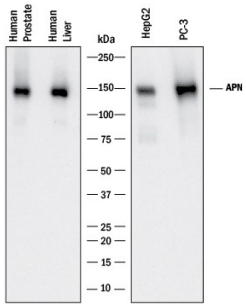
APPLICATIONS

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
Simple Western	20 µg/mL	See Below
Knockout Validated	Aminopeptidase N/CD13 is specifically detected in U937 human histiocytic lymphoma parental cell line but is not detectable in Aminopeptidase N/CD13 knockout U937 human histiocytic lymphoma cell line.	

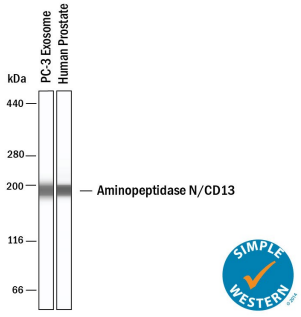
DATA

Western Blot



Detection of Human Aminopeptidase N/CD13 by Western Blot. Western blot shows lysates of human prostate tissue, human liver tissue, HepG2 human hepatocellular carcinoma cell line, and PC-3 human prostate cancer cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Aminopeptidase N/CD13 Monoclonal Antibody (Catalog # MAB38151) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # Catalog # HAF018). A specific band was detected for Aminopeptidase N/CD13 at approximately 150 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human Aminopeptidase N/CD13 by Simple Western™. Simple Western shows lysates of Exosome Standards (PC-3) (Catalog # NBP2-49856) and human prostate tissue, loaded at 0.5 mg/ml. A specific band was detected for Aminopeptidase N/CD13 at approximately 192 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human Aminopeptidase N/CD13 Monoclonal Antibody (Catalog # MAB38151). This experiment was conducted under reducing conditions and using the 66-440kDa separation system.

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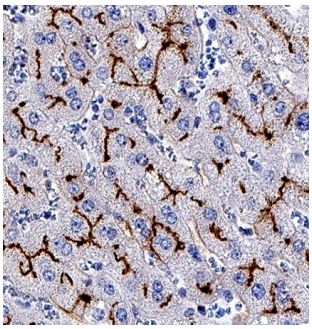
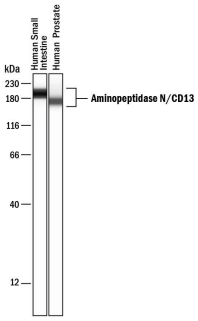
Immunohistochemistry



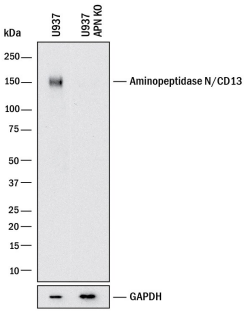
Aminopeptidase N/CD13 in Human Colon. Aminopeptidase N/CD13 was detected in immersion fixed paraffin-embedded sections of human colon using Mouse Anti-Human Aminopeptidase N/CD13 Monoclonal Antibody (Catalog # MAB38151) at 0.5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to glandular cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Simple Western



Detection of Human Aminopeptidase N/CD13 by Simple Western™. Simple Western lane view shows lysates of human small intestine tissue and human prostate tissue, loaded at 0.2 mg/mL. A specific band was detected for Aminopeptidase N/CD13 at approximately 174-194 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human Aminopeptidase N/CD13 Monoclonal Antibody (Catalog # MAB38151) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

Knockout Validated



Western Blot Shows Human Aminopeptidase N/CD13 Specificity by Using Knockout Cell Line. Western blot shows lysates of U937 human histiocytic lymphoma cell line and human APN knockout U937 human histiocytic lymphoma cell line (KO). PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Aminopeptidase N/CD13 Monoclonal Antibody (Catalog # MAB38151) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Aminopeptidase N/CD13 at approximately 150 kDa (as indicated) in the parental U937 human histiocytic lymphoma cell line, but is not detectable in knockout U937 human histiocytic lymphoma cell line. GAPDH (Catalog # MAB5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

PREPARATION AND STORAGE

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

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BACKGROUND

The human ANPEP gene encodes aminopeptidase N (APN), which is also known as microsomal aminopeptidase, alanyl aminopeptidase, aminopeptidase M, CD13, or membrane protein p161 (1-3). The deduced amino acid sequence of human APN consists of a short cytoplasmic tail (residues 2 to 8), a transmembrane region (residue 9 to 32), a Ser/Thr rich region and a zinc metalloprotease domain (residues 69 to 966). The amino acid sequence of human APN is 78% and 77% identical to that of rat and mouse, respectively. Widely expressed in many cells, tissues and species, APN cleaves the N-terminal amino acids from bioactive peptides, leading to their inactivation or degradation. The roles of APN in many fields, such as neuroscience, hematopoeitic cells, immune system, angiogenesis, cancer and viral infection, have been reviewed (3).

References:

1. Olsen, J. *et al.* (1988) FEBS Lett. **238**:307.
2. Look, A.T. *et al.* (1989) J. Clin. Invest. **83**:1299.
3. Turner, A.J. (2004) in *Handbook of Proteolytic Enzymes* (ed. Barrett, *et al.*) pp. 289, Academic Press, San Diego.

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