

Anti-CD13/ANPEP Picoband™ Antibody (monoclonal, 5B9)

Catalog # ABO14993

Product Information

Application	WB, IHC
Primary Accession	P15144
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Monkey
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-CD13/ANPEP Picoband™ Antibody (monoclonal, 5B9) . Tested in IHC, WB applications. This antibody reacts with Human, Monkey, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	290
Other Names	Aminopeptidase N, AP-N, hAPN, 3.4.11.2, Alanyl aminopeptidase, Aminopeptidase M, AP-M, Microsomal aminopeptidase, Myeloid plasma membrane glycoprotein CD13, gp150, CD13, ANPEP, APN, CD13, PEPN
Calculated MW	109540
Application Details	Western blot, 0.25-0.5 µg/ml, Human, Rat, Monkey Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human, Rat
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.
Clone Names	Clone: 5B9
Immunogen	E.coli-derived human CD13/ANPEP recombinant protein (Position: D148-S966).
Purification	Immunogen affinity purified.
Storage	Store at -20 °C for one year from date of receipt. After reconstitution, at 4 °C for one month. It can also be aliquotted and stored frozen at -20 °C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	ANPEP
Synonyms	APN, CD13, PEPN
Function	Broad specificity aminopeptidase which plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. Also involved in the processing of various peptides including peptide hormones, such as angiotensin III and IV, neuropeptides, and chemokines. May also be involved the cleavage of peptides bound to major histocompatibility complex class II molecules of antigen presenting cells. May have a role in angiogenesis and promote cholesterol crystallization. May have a role in amino acid transport by acting as binding partner of amino acid transporter SLC6A19 and regulating its activity (By similarity).
Cellular Location	Cell membrane; Single-pass type II membrane protein. Note=Also found as a soluble form
Tissue Location	Expressed in epithelial cells of the kidney, intestine, and respiratory tract; granulocytes, monocytes, fibroblasts, endothelial cells, cerebral pericytes at the blood-brain barrier, synaptic membranes of cells in the CNS. Also expressed in endometrial stromal cells, but not in the endometrial glandular cells. Found in the vasculature of tissues that undergo angiogenesis and in malignant gliomas and lymph node metastases from multiple tumor types but not in blood vessels of normal tissues. A soluble form has been found in plasma. It is found to be elevated in plasma and effusions of cancer patients.

Background

Membrane alanyl aminopeptidase (EC 3.4.11.2) also known as alanyl aminopeptidase (AAP) or aminopeptidase N (AP-N) is an enzyme that in humans is encoded by the ANPEP gene. It is mapped to 15q26.1. Aminopeptidase N is located in the small-intestinal and renal microvillar membrane, and also in other plasma membranes. In the small intestine aminopeptidase N plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. Its function in proximal tubular epithelial cells and other cell types is less clear. The large extracellular carboxyterminal domain contains a pentapeptide consensus sequence characteristic of members of the zinc-binding metalloproteinase superfamily. Sequence comparisons with known enzymes of this class showed that CD13 and aminopeptidase N are identical. The latter enzyme was thought to be involved in the metabolism of regulatory peptides by diverse cell types, including small intestinal and renal tubular epithelial cells, macrophages, granulocytes, and synaptic membranes from the CNS. Human aminopeptidase N is a receptor for one strain of human coronavirus that is an important cause of upper respiratory tract infections. Defects in this gene appear to be a cause of various types of leukemia or lymphoma.

Images

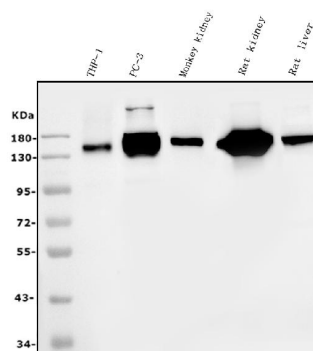


Figure 1. Western blot analysis of CD13/ANPEP using anti-CD13/ANPEP antibody (M02591-4). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human THP-1 whole cell lysates, Lane 2: human PC-3 whole cell lysates, Lane 3: monkey kidney tissue lysates, Lane 4: rat kidney tissue lysates, Lane 5: rat liver tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes.

Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-CD13/ANPEP antigen affinity purified monoclonal antibody (Catalog # M02591-4) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for CD13/ANPEP at approximately 150KD. The expected band size for CD13/ANPEP is at 150KD.

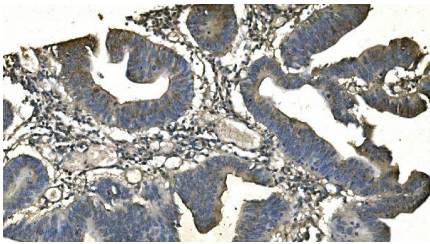


Figure 2. IHC analysis of CD13/ANPEP using anti-CD13/ANPEP antibody (M02591-4). CD13/ANPEP was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-CD13/ANPEP Antibody (M02591-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

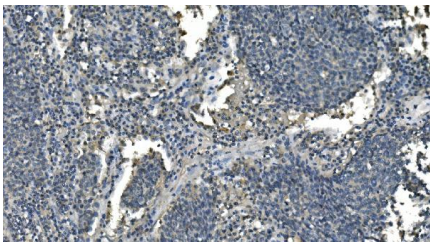


Figure 3. IHC analysis of CD13/ANPEP using anti-CD13/ANPEP antibody (M02591-4). CD13/ANPEP was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-CD13/ANPEP Antibody (M02591-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

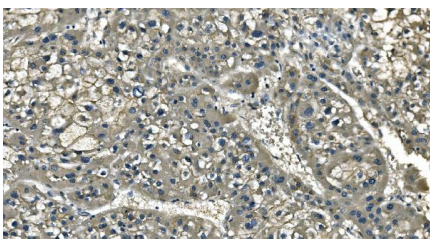
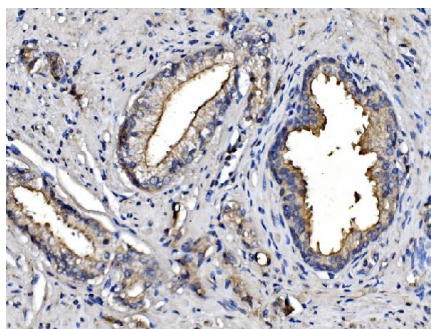


Figure 4. IHC analysis of CD13/ANPEP using anti-CD13/ANPEP antibody (M02591-4). CD13/ANPEP was detected in paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-CD13/ANPEP Antibody (M02591-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

Figure 5. IHC analysis of CD13/ANPEP using anti-CD13/ANPEP antibody (M02591-4). CD13/ANPEP was detected in paraffin-embedded section of human prostate cancer tissue. Heat mediated antigen



retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-CD13/ANPEP Antibody (M02591-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

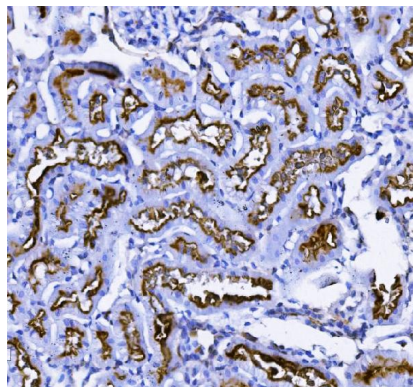


Figure 6. IHC analysis of CD13/ANPEP using anti-CD13/ANPEP antibody (M02591-4). CD13/ANPEP was detected in paraffin-embedded section of rat kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-CD13/ANPEP Antibody (M02591-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

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