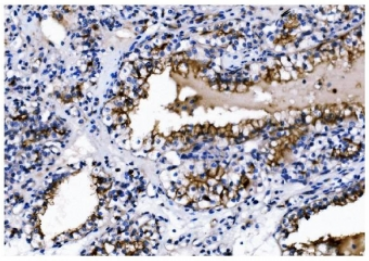
CD13 Antibody / ANPEP [clone 7F2] (RQ7957)

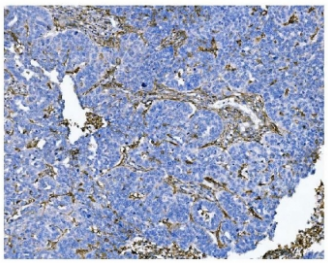
Catalog No.	Formulation	Size
RQ7957	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

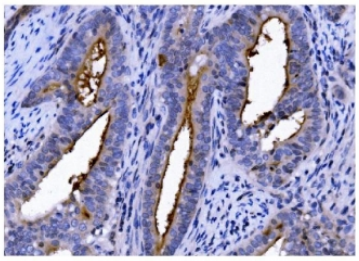
Availability	1-3 business days
Species Reactivity	Human, Rat, Monkey
Format	Antigen affinity purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1
Clone Name	7F2
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P15144
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This CD13 antibody is available for research use only.



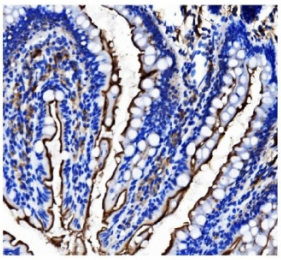
IHC staining of FFPE human renal clear cell carcinoma tissue with CD13 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



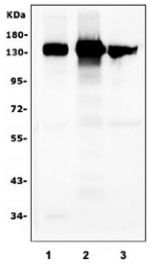
IHC staining of FFPE human ovarian serous adenocarcinoma tissue with CD13 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human gallbladder adenocarcinoma tissue with CD13 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE rat intestine tissue with CD13 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) monkey kidney, 2) rat kidney and 3) rat liver tissue lysate with CD13 antibody. Expected molecular weight: 110-150 kDa depending on glycosylation level.

Description

CD13 antibody detects Aminopeptidase N (ANPEP), a zinc-dependent membrane-bound metalloprotease involved in peptide processing, antigen presentation, and cell adhesion. The UniProt recommended name is Aminopeptidase N (ANPEP). This multifunctional enzyme is expressed on the surface of various cell types, including epithelial cells, endothelial cells, macrophages, fibroblasts, and myeloid progenitors. CD13 is classified as a type II transmembrane glycoprotein and is part of the M1 family of aminopeptidases. It catalyzes the removal of N-terminal amino acids from peptides and plays critical roles in physiological processes such as digestion, cell differentiation, and immune response regulation.

Functionally, CD13 acts at the interface of proteolysis and cell signaling. It participates in the degradation of bioactive peptides, including enkephalins, kinins, and angiotensins, thereby modulating vascular tone, pain perception, and inflammatory signaling. In the immune system, CD13 is expressed on monocytes and macrophages, where it contributes to phagocytosis, cytokine secretion, and leukocyte migration. On endothelial cells, CD13 promotes angiogenesis by mediating cell adhesion and extracellular matrix remodeling, making it a key regulator of tissue repair and tumor vascularization.

The ANPEP gene, located on chromosome 15q26.1, encodes a 967-amino-acid protein that is anchored in the plasma membrane through a short cytoplasmic domain and a single transmembrane helix. The large extracellular domain contains the catalytic zinc-binding site essential for enzymatic activity. CD13 is also known as gp150 and is recognized as a myeloid differentiation antigen, frequently used as a marker in hematopoietic studies and leukemia diagnostics. In cancer, CD13 expression correlates with increased invasiveness and metastatic potential in several tumor types, including renal, pancreatic, and lung carcinomas.

In infection biology, CD13 serves as a receptor for certain human coronaviruses, highlighting its importance in host-pathogen interactions. The enzyme's dual role as both a peptidase and receptor underscores its significance in cellular communication and immune surveillance. Research using CD13 antibody has enabled studies of angiogenesis,

inflammatory signaling, and tumor microenvironment dynamics by mapping ANPEP expression across tissues and disease states.

CD13 antibody is validated for immunohistochemistry, immunofluorescence, and related assays to evaluate cell surface protease expression and localization. It supports investigations into peptide metabolism, immune modulation, and cancer biology. NSJ Bioreagents provides CD13 antibody reagents optimized for research on aminopeptidase function, tissue remodeling, and cell surface signaling.

Application Notes

Optimal dilution of the CD13 antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids D148-S966) was used as the immunogen for the CD13 antibody.

Storage

After reconstitution, the CD13 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.