Datasheet for ABIN1889381
CD13 ELISA Kit

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Overview

Quantity:	96 tests
Target:	CD13 (ANPEP)
Binding Specificity:	AA 69-967
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	312-20.000 pg/mL
Minimum Detection Limit:	312 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human CD13/Aminopeptidase N
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NS0 Immunogen sequence: K69-K967
Specificity:	Expression system for standard: NS0 Immunogen sequence: K69-K967

Product Details

Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl

Target Details

Target:	CD13 (ANPEP)
Alternative Name:	ANPEP (ANPEP Products)
Background:	Protein Function: Broad specificity aminopeptidase. Plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. May play a critical role in the pathogenesis of cholesterol gallstone disease. May be involved in the metabolism of regulatory peptides of diverse cell types, responsible for the processing of peptide hormones, such as angiotensin III and IV, neuropeptides, and chemokines. Found to cleave antigen peptides bound to major histocompatibility complex class II molecules of presenting cells and to degrade neurotransmitters at synaptic junctions. Is also implicated as a regulator of IL-8 bioavailability in the endometrium, and therefore may contribute to the regulation of angiogenesis. Is used as a marker for acute myeloid leukemia and plays a role in tumor invasion. In case of human coronavirus 229E (HCoV-229E) infection, serves as receptor for HCoV-229E spike glycoprotein. Mediates as well human cytomegalovirus (HCMV) infection. .
	Background: Alanine aminopeptidase, also known as ANPEP or CD13. is an enzyme that is used as a biomarker to detect damage to the kidneys, and that may be used to help diagnose certain kidney disorders. 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, and it is also 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. Petrovic et al showed that CD13 was required for endothelial cell invasion in response to bradykinin. Inhibition of CD13 abrogated internalization of bradykinin receptor B2 and reduced endothelial cell motility.
	Synonyms: Aminopeptidase N,AP-N,hAPN,3.4.11.2,Alanyl aminopeptidase,Aminopeptidase

Target Details

	M,AP-M,Microsomal aminopeptidase,Myeloid plasma membrane glycoprotein CD13,gp150,CD13,ANPEP,APN, CD13, PEPN, Full Gene Name: Aminopeptidase N Cellular Localisation: Cell membrane, Single-pass type II membrane protein. Cytoplasm, cytosol . A soluble form has also been detected.
Gene ID:	290
UniProt:	P15144
Pathways:	Peptide Hormone Metabolism, Regulation of Systemic Arterial Blood Pressure by Hormones

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Tissue Specificity: 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.
Plate:	Pre-coated
Protocol:	human CD13 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for CD13 has been precoated onto 96-well plates. Standards(NSO, K69-K967) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for CD13 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human CD13 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 20,000pg/mL, 10,000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL human CD13 standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin,

Application Details

EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human CD13 standard solution and each sample be measured in duplicate.

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Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 2.98, Standard deviation: 0.158, CV(%): 5.3 • Sample 2: n=16, Mean(ng/ml): 6.54, Standard deviation: 0.360, CV(%): 5.5 • Sample 3: n=16, Mean(ng/ml): 12.73, Standard deviation: 0.751, CV(%): 5.9, • Sample 1: n=24, Mean(ng/ml): 3.27, Standard deviation: 0.190, CV(%): 5.8 • Sample 2: n=24, Mean(ng/ml): 6.83, Standard deviation: 0.430, CV(%): 6.3 • Sample 3: n=24, Mean(ng/ml): 13.76, Standard deviation: 0.922, CV(%): 6.7
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Publications

Product cited in:	Wang, Li, Sun, Ni, Huan, Huang, Li, Fan, Ren, Mao: "Triggering unfolded protein response by 2-Deoxy-D-glucose inhibits porcine epidemic diarrhea virus propagation." in: **Antiviral research**, Vol. 106, pp. 33-41, (2014) (PubMed).

Images
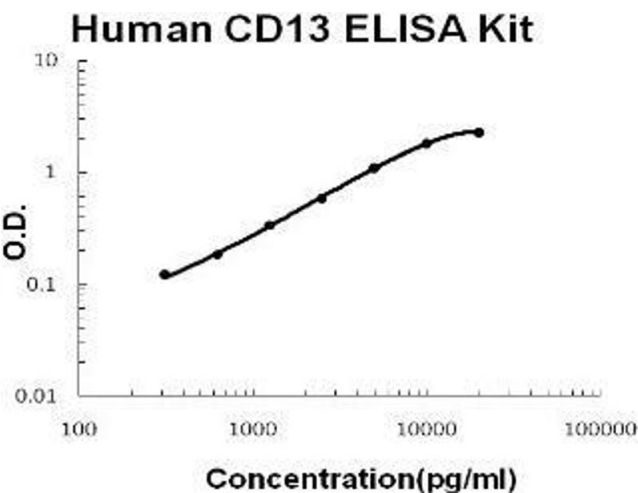
ELISA

Image 1. Human CD13/Aminopeptidase N PicoKine ELISA Kit standard curve