Datasheet for ABIN1889402

Renin ELISA Kit

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Overview

Quantity:	96 tests
Target:	Renin (REN)
Binding Specificity:	AA 67-406
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	31.2-2000 pg/mL
Minimum Detection Limit:	31.2 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human Renin
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Urine
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: L67-R406
Specificity:	Expression system for standard: NSO Immunogen sequence: L67-R406
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

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:	Renin (REN)
Alternative Name:	REN (REN Products)
Background:	Protein Function: Renin is a highly specific endopeptidase, whose only known function is to generate angiotensin I from angiotensinogen in the plasma, initiating a cascade of reactions that produce an elevation of blood pressure and increased sodium retention by the kidney. Background: Renin, also known as an angiotensinogenase, is an enzyme that participates in the body's renin-angiotensin system(RAS). This gene is mapped to 1q32.1. Renin's primary function is to cause an increase in blood pressure, leading to restoration of perfusion pressure in the kidneys. It also can catalyze the first step in the activation pathway of angiotensinogen--a cascade that can result in aldosterone release,vasoconstriction. Renin, an aspartyl protease, cleaves angiotensinogen to form angiotensin I, which is converted to angiotensin II by angiotensin I converting enzyme, an important regulator of blood pressure and electrolyte balance. What's more, Renin secretion is also stimulated by sympathetic nervous stimulation, mainly through beta-1 adrenoceptor activation. Synonyms: Renin,3.4.23.15,Angiotensinogenase,REN, Full Gene Name: Renin Cellular Localisation: Secreted. Membrane. Associated to membranes via binding to ATP6AP2.
Gene ID:	5972
UniProt:	P00797
Pathways:	ACE Inhibitor Pathway, Peptide Hormone Metabolism, Regulation of Systemic Arterial Blood Pressure by Hormones, Feeding Behaviour

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.

Application Details

Comment:	Sequence similarities: Belongs to the peptidase A1 family.
Plate:	Pre-coated
Protocol:	human Renin ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Renin has been precoated onto 96-well plates. Standards(NSO, L67-R406) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Renin 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 Renin amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 2000pg/mL,1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL human Renin 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, plasma(heparin, EDTA) or urine to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human Renin standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 353, Standard deviation: 19.8, CV(%): 5.6 • Sample 2: n=16, Mean(pg/ml): 643, Standard deviation: 22.51, CV(%): 3.5 • Sample 3: n=16, Mean(pg/ml): 1204, Standard deviation: 78.26, CV(%): 6.5, • Sample 1: n=24, Mean(pg/ml): 287, Standard deviation: 18.1, CV(%): 6.3 • Sample 2: n=24, Mean(pg/ml): 632, Standard deviation: 32.9, CV(%): 5.2 • Sample 3: n=24, Mean(pg/ml): 1148, Standard deviation: 81.6, CV(%): 7.1
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:	Zhang, Shi, Zou, Chen, Tang, Ye, Liu: "High glucose stimulates cell proliferation and Collagen IV

Publications

production in rat mesangial cells through inhibiting AMPK-KATP signaling." in: **International urology and nephrology**, Vol. 49, Issue 11, pp. 2079-2086, (2018) (PubMed).

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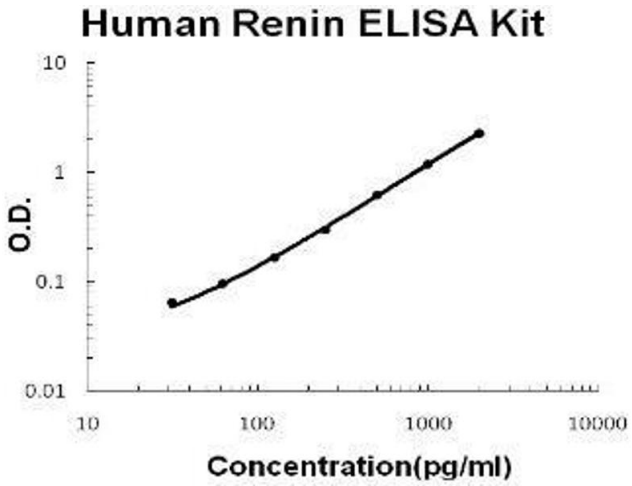
Cavdar, Ozbal, Celik, Ergur, Guneli, Ural, Camsari, Guner: "The effects of alpha-lipoic acid on MMP-2 and MMP-9 activities in a rat renal ischemia and re-perfusion model." in: **Biotechnic & histochemistry : official publication of the Biological Stain Commission**, Vol. 89, Issue 4, pp. 304-14, (2014) (PubMed).

Xu, Ling, Zhu, Fan, Zhang: "The effect of 2,3,4',5-tetrahydroxystilbene-2-0-?-D glucoside on neointima formation in a rat artery balloon injury model and its possible mechanisms." in: **European journal of pharmacology**, Vol. 698, Issue 1-3, pp. 370-8, (2013) (PubMed).

Kim, Lee, Choi, Yoo, Yang: "Implication of MMP-9 and urokinase plasminogen activator (uPA) in the activation of pro-matrix metalloproteinase (MMP)-13." in: **Rheumatology international**, Vol. 32, Issue 10, pp. 3069-75, (2012) (PubMed).

Images



ELISA

Image 1. Human Renin PicoKine ELISA Kit standard curve