Datasheet for ABIN1672904

alpha 2 Macroglobulin ELISA Kit

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Overview

Quantity:	96 tests
Target:	alpha 2 Macroglobulin (A2M)
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	625-40.000 pg/mL
Minimum Detection Limit:	625 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human A2M/alpha2-Macroglobulin
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	from human plasma
Specificity:	Expression system for standard: from human plasma
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Sensitivity:	<20pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette

Product Details

	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:	alpha 2 Macroglobulin (A2M)
Alternative Name:	A2M (A2M Products)
Background:	Protein Function: Is able to inhibit all four classes of proteinases by a unique 'trapping' mechanism. This protein has a peptide stretch, called the 'bait region' which contains specific cleavage sites for different proteinases. When a proteinase cleaves the bait region, a conformational change is induced in the protein which traps the proteinase. The entrapped enzyme remains active against low molecular weight substrates (activity against high molecular weight substrates is greatly reduced). Following cleavage in the bait region a thioester bond is hydrolyzed and mediates the covalent binding of the protein to the proteinase. Background: Alpha-2-macroglobulin, also known as A2M or CPAMD5 is a large plasma protein found in the blood. This gene is mapped to 12p13.31. Alpha-2-macroglobulin is a protease inhibitor and cytokine transporter. It inhibits many proteases, including trypsin, thrombin and collagenase. A2M is implicated in Alzheimer disease(AD) due to its ability to mediate the clearance and degradation of A-beta, the major component of beta-amyloid deposits. This gene is able to inhibit all four classes of proteinases by a unique 'trapping' mechanism. This protein has a peptide stretch, called the 'bait region' which contains specific cleavage sites for different proteinases. When a proteinase cleaves the bait region, a conformational change is induced in the protein which traps the proteinase. The entrapped enzyme remains active against low molecular weight substrates(activity against high molecular weight substrates is greatly reduced). Following cleavage in the bait region a thioester bond is hydrolyzed and mediates the covalent binding of the protein to the proteinase. Synonyms: Alpha-2-macroglobulin,Alpha-2-M,C3 and PZP-like alpha-2-macroglobulin domain-containing protein 5,A2M,CPAMD5,FWP007, Full Gene Name: Alpha-2-macroglobulin Cellular Localisation: Secreted.
Gene ID:	2
UniProt:	P01023
Pathways:	Lipid Metabolism

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:	Sequence similarities: Belongs to the protease inhibitor I39 (alpha-2- macroglobulin) family. Tissue Specificity: Secreted in plasma. .
Plate:	Pre-coated
Protocol:	human A2M ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for A2M has been precoated onto 96-well plates. Standards(from human plasma) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for A2M 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 A2M amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 40,000pg/mL, 20,000pg/mL, 10,000pg/mL, 5,000pg/mL, 2,500pg/mL, 1,250pg/mL, 625pg/mL human A2M 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, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human A2M standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 6.18, Standard deviation: 0.377, CV(%): 6.1 • Sample 2: n=16, Mean(ng/ml): 12.04, Standard deviation: 0.771, CV(%): 6.4 • Sample 3: n=16, Mean(ng/ml): 25.21, Standard deviation: 0.174, CV(%): 6.9, • Sample 1: n=24, Mean(ng/ml): 6.72, Standard deviation: 0.457, CV(%): 6.8 • Sample 2: n=24, Mean(ng/ml): 13.68, Standard deviation: 0.985, CV(%): 7.2 • Sample 3: n=24, Mean(ng/ml): 26.81, Standard deviation: 2.12, CV(%): 7.9
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

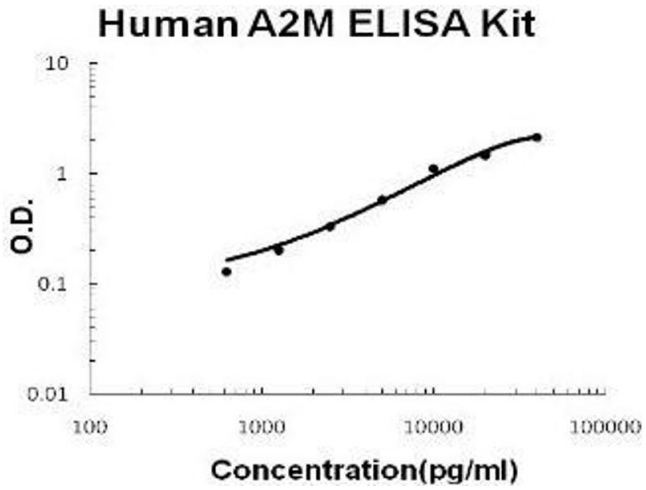
Publications

Product cited in:

Liu, Chen, Wu, Chen, Zhang: "Neutrophil serine proteases and their endogenous inhibitors in coronary artery ectasia patients." in: **Anatolian journal of cardiology**, Vol. 16, Issue 1, pp. 23-8, (2016) (PubMed).

Wu, Liu, Chen, Chen, Zhang: "Disequilibrium of Blood Coagulation and Fibrinolytic System in Patients With Coronary Artery Ectasia." in: **Medicine**, Vol. 95, Issue 8, pp. e2779, (2016) (PubMed).

Images



ELISA

Image 1. Human A2M/alpha2-Macroglobulin PicoKine ELISA Kit standard curve