Datasheet for ABIN921107

RBP4 ELISA Kit

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Overview

Quantity:	96 tests
Target:	RBP4
Binding Specificity:	AA 19-201
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	312-20000 pg/mL
Minimum Detection Limit:	312 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human RBP4
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: E19-L201
Specificity:	Expression system for standard: NSO Immunogen sequence: E19-L201
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:	RBP4
Alternative Name:	RBP4 (RBP4 Products)
Background:	Protein Function: Delivers retinol from the liver stores to the peripheral tissues. In plasma, the RBP-retinol complex interacts with transthyretin, this prevents its loss by filtration through the kidney glomeruli. Background: Retinol binding protein 4, plasma, also known as RBP4, belongs to the lipocalin family and is the specific carrier for retinol(vitamin A alcohol) in the blood. It is protein that in humans is encoded by the RBP4 gene. RBP4 gene resides just centromeric of the cluster of CYP2C genes on 10q24. The mouse Rbp4 locus is closely linked and just proximal to the locus for phenobarbital-inducible cytochrome P450-2c(Cyp-2c) at the distal end of chromosome 19. It delivers retinol from the liver stores to the peripheral tissues. In plasma, the RBP-retinol complex interacts with transthyretin, which prevents its loss by filtration through the kidney glomeruli. A deficiency of vitamin A blocks secretion of the binding protein posttranslationally and results in defective delivery and supply to the epidermal cells. The standard used in this kit is recombinant protein, with E19-L201 aa sequence, the molecular weight is 22kda. Synonyms: Retinol-binding protein 4,Plasma retinol-binding protein,PRBP,RBP,Plasma retinol-binding protein(1-182),Plasma retinol-binding protein(1-181),Plasma retinol-binding protein(1-179),Plasma retinol-binding protein(1-176),RBP4,PRO2222, Full Gene Name: Retinol-binding protein 4 Cellular Localisation: Secreted.
Gene ID:	5950
UniProt:	P02753
Pathways:	Regulatory RNA Pathways, Positive Regulation of Peptide Hormone Secretion, Carbohydrate Homeostasis, Production of Molecular Mediator of Immune Response

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 calycin superfamily. Lipocalin family.
Plate:	Pre-coated
Protocol:	human RBP4 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for RBP4 has been precoated onto 96-well plates. Standards(NSO, E19-L201) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for RBP4 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 RBP4 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 20000pg/mL, 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL human RBP4 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. We recommend that each human RBP4 standard solution and each sample is measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 2.8, Standard deviation: 0.174, CV(%): 6.2 • Sample 2: n=16, Mean(ng/ml): 5, Standard deviation: 0.295, CV(%): 5.9 • Sample 3: n=16, Mean(ng/ml): 9.43, Standard deviation: 0.434, CV(%): 4.6, • Sample 1: n=24, Mean(ng/ml): 3.4, Standard deviation: 0.255, CV(%): 7.5 • Sample 2: n=24, Mean(ng/ml): 6.2, Standard deviation: 0.422, CV(%): 6.8 • Sample 3: n=24, Mean(ng/ml): 11.5, Standard deviation: 0.874, CV(%): 7.6
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

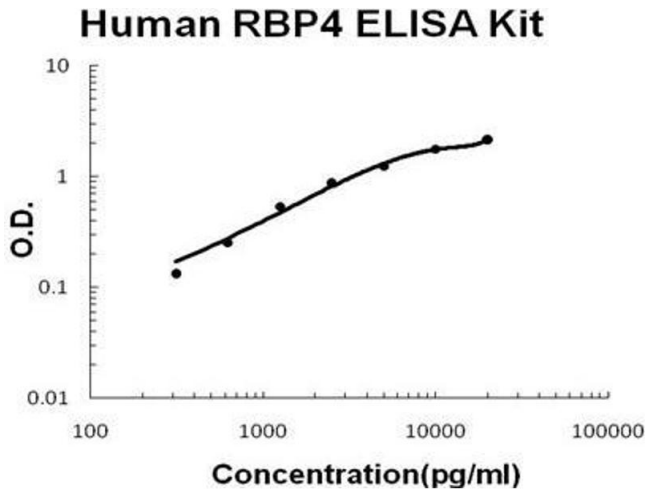
Publications

Product cited in:

Ding, Luo, Yu, Zhou, Wu: "Vitreous levels of apolipoprotein A1 and retinol binding protein 4 in human rhegmatogenous retinal detachment associated with choroidal detachment." in: **Molecular vision**, Vol. 24, pp. 252-260, (2018) (PubMed).

Farahbakhsh-Farsi, Djazayery, Eshraghian, Koohdani, Zarei, Javanbakht, Derakhshanian, Djalali: "Effect of Omega-3 Supplementation on Lipocalin 2 and Retinol-Binding Protein 4 in Type 2 Diabetic Patients." in: **Iranian journal of public health**, Vol. 45, Issue 2, pp. 179-85, (2016) (PubMed).

Images



ELISA

Image 1. Human RBP4 PicoKine ELISA Kit standard curve