Datasheet for ABIN2859335

Chemerin ELISA Kit

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Overview

Quantity:	96 tests
Target:	Chemerin (RARRES2)
Binding Specificity:	AA 17-163
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	0.78-50 ng/mL
Minimum Detection Limit:	0.78 ng/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human Chemerin/RARRES2
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: E.coli Immunogen sequence: V17-S163
Specificity:	Expression system for standard: E.coli Immunogen sequence: V17-S163
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<20pg/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:	Chemerin (RARRES2)
Alternative Name:	RARRES2 (RARRES2 Products)
Background:	Protein Function: Adipocyte-secreted protein (adipokine) that regulates adipogenesis, metabolism and inflammation through activation of the chemokine-like receptor 1 (CMKLR1). Its other ligands include G protein-coupled receptor 1 (GPR1) and chemokine receptor-like 2 (CCRL2). Positively regulates adipocyte differentiation, modulates the expression of adipocyte genes involved in lipid and glucose metabolism and might play a role in angiogenesis, a process essential for the expansion of white adipose tissue. Also acts as a proinflammatory adipokine, causing an increase in secretion of proinflammatory and prodiabetic adipokines, which further impair adipose tissue metabolic function and have negative systemic effects including impaired insulin sensitivity, altered glucose and lipid metabolism, and a decrease in vascular function in other tissues. Can have both pro- and anti-inflammatory properties depending on the modality of enzymatic cleavage by different classes of proteases. Acts as a chemotactic factor for leukocyte populations expressing CMKLR1, particularly immature plasmacytoid dendritic cells, but also immature myeloid DCs, macrophages and natural killer cells. Exerts an anti-inflammatory role by preventing TNF/TNFA-induced VCAM1 expression and monocytes adhesion in vascular endothelial cells. The effect is mediated via inhibiting activation of NF-kappa-B and CRK/p38 through stimulation of AKT1/NOS3 signaling and nitric oxide production. Its dual role in inflammation and metabolism might provide a link between chronic inflammation and obesity, as well as obesity- related disorders such as type 2 diabetes and cardiovascular disease. Exhibits an antimicrobial function in the skin. . Background: Chemerin, also known as RARRES2 or TIG2, is a protein that in humans is encoded by the RARRES2 gene. It is mapped to 7q36.1. Chemerin is a potent chemoattractant specific for antigen-presenting cells that requires proteolytic activation and acts as a ligand for the G protein-coupled receptor CMKLR1(also known as ChemR23). It is a 14 kDa protein secreted in an inactive form as prochemerin and is activated through cleavage of the C-terminus by inflammatory and coagulation serine proteases. Chemerin was found to stimulate

Target Details

	chemotaxis of dendritic cells and macrophages to the site of inflammation. Whatâ€™s more, the active protein has several roles, including that as an adipokine, and is truncated on both termini from the proprotein. Synonyms: Retinoic acid receptor responder protein 2,Chemerin,RAR-responsive protein TIG2,Tazarotene-induced gene 2 protein,RARRES2,TIG2, Full Gene Name: Retinoic acid receptor responder protein 2 Cellular Localisation: Secreted.
Gene ID:	5919
UniProt:	Q99969
Pathways:	Brown Fat Cell Differentiation

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 at the highest levels in placenta, liver, and white adipose tissue (WAT), and to a lesser extent in many other tissues such as lung, brown adipose tissue, heart, ovary, kidney, skeletal muscle and pancreas. Within WAT, expression is enriched in adipocytes as compared to the stromal vascular fraction. Expression and secretion increases dramatically with adipogenesis. Highly expressed in skin (basal and suprabasal layers of the epidermis, hair follicles and endothelial cells). Expression is elevated in numerous metabolic and inflammatory diseases including psoriasis, obesity, type 2 diabetes, metabolic syndrome and cardiovascular disease. .
Plate:	Pre-coated
Protocol:	human Chemerin ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Chemerin has been precoated onto 96-well plates. Standards(E.coli, V17-S163) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Chemerin 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 Chemerin amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 50 ng/mL, 25 ng/mL, 12.5 ng/mL, 6.25 ng/mL, 3.12 ng/mL,

Application Details

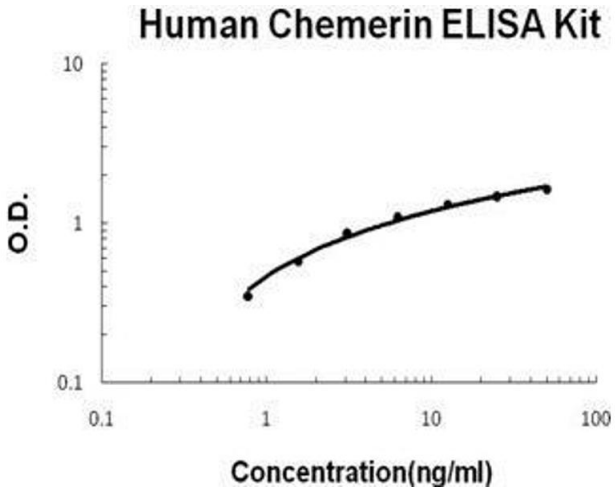
	1.56 ng/mL, 0.78 ng/mL human Chemerin standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each human Chemerin standard solution and each sample is measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 4.8, Standard deviation: 0.269, CV(%): 5.6 • Sample 2: n=16, Mean(ng/ml): 15, Standard deviation: 0.69, CV(%): 4.6 • Sample 3: n=16, Mean(ng/ml): 26.4, Standard deviation: 1.03, CV(%): 3.9, • Sample 1: n=24, Mean(ng/ml): 5.3, Standard deviation: 0.424, CV(%): 8 • Sample 2: n=24, Mean(ng/ml): 16.7, Standard deviation: 1.286, CV(%): 7.7 • Sample 3: n=24, Mean(ng/ml): 28.3, Standard deviation: 1.896, 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:	Motawi, Mahdy, El-Sawalhi, Ali, El-Telbany: "Serum levels of chemerin, apelin, vaspin, and omentin-1 in obese type 2 diabetic Egyptian patients with coronary artery stenosis." in: **Canadian journal of physiology and pharmacology**, Vol. 96, Issue 1, pp. 38-44, (2018) (PubMed).



ELISA

Image 1. Human Chemerin/RARRES2 PicoKine ELISA Kit standard curve