Datasheet for ABIN1889436

Angiopoietin 1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	Angiopoietin 1 (ANGPT1)
Binding Specificity:	AA 16-497
Reactivity:	Mouse
Method Type:	Sandwich ELISA
Detection Range:	156-10.000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Mouse Angiopoietin-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: H16-F497
Specificity:	Expression system for standard: NSO Immunogen sequence: H16-F497
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:	Angiopoietin 1 (ANGPT1)
Alternative Name:	ANGPT1 (ANGPT1 Products)
Background:	Protein Function: Binds and activates TEK/TIE2 receptor by inducing its dimerization and tyrosine phosphorylation. Plays an important role in the regulation of angiogenesis, endothelial cell survival, proliferation, migration, adhesion and cell spreading, reorganization of the actin cytoskeleton, but also maintenance of vascular quiescence. Required for normal angiogenesis and heart development during embryogenesis. After birth, activates or inhibits angiogenesis, depending on the context. Inhibits angiogenesis and promotes vascular stability in quiescent vessels, where endothelial cells have tight contacts. In quiescent vessels, ANGPT1 oligomers recruit TEK to cell-cell contacts, forming complexes with TEK molecules from adjoining cells, and this leads to preferential activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascades. In migrating endothelial cells that lack cell-cell adhesions, ANGT1 recruits TEK to contacts with the extracellular matrix, leading to the formation of focal adhesion complexes, activation of PTK2/FAK and of the downstream kinases MAPK1/ERK2 and MAPK3/ERK1, and ultimately to the stimulation of sprouting angiogenesis. Mediates blood vessel maturation/stability. Implicated in endothelial developmental processes later and distinct from that of VEGF. Appears to play a crucial role in mediating reciprocal interactions between the endothelium and surrounding matrix and mesenchyme (By similarity). . Background: Angiopoietin 1, also called ANG1 is a type of angiopoietin and is encoded by the gene ANGPT1. Angiopoietins are proteins with important roles in vascular development and angiogenesis. All angiopoietins bind with similar affinity to an endothelial cell-specific tyrosine-protein kinase receptor. This gene was mapped to 8q23.1. The protein encoded by this gene is a secreted glycoprotein that activates the receptor by inducing its tyrosine phosphorylation. It plays a critical role in mediating reciprocal interactions between the endothelium and surrounding matrix and mesenchyme and inhibits endothelial permeability. The protein also contributes to blood vessel maturation and stability, and may be involved in early development of the heart.

Target Details

	Synonyms: Angiopoietin-1,ANG-1,Angpt1,Agpt, Full Gene Name: Angiopoietin-1 Cellular Localisation: Secreted.
Gene ID:	11600
UniProt:	O08538
Pathways:	RTK Signaling, Glycosaminoglycan Metabolic Process

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.
Plate:	Pre-coated
Protocol:	mouse Angiopoietin-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for Angiopoietin-1 has been precoated onto 96-well plates. Standards(NSO, H16-F497) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Angiopoietin-1 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 mouse Angiopoietin-1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10,000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL mouse Angiopoietin-1 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 mouse cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each mouse Angiopoietin-1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 1.28, Standard deviation: 0.055, CV(%): 4.3 • Sample 2: n=16, Mean(ng/ml): 3.54, Standard deviation: 0.131, CV(%): 3.7 • Sample 3: n=16, Mean(ng/ml): 6.85, Standard deviation: 0.301, CV(%): 4.4, • Sample 1: n=24, Mean(ng/ml): 1.59, Standard deviation: 0.086, CV(%): 5.4 • Sample 2: n=24, Mean(ng/ml): 3.83, Standard deviation: 0.181, CV(%): 4.7 • Sample 3: n=24, Mean(ng/ml): 6.97, Standard deviation: 0.369, CV(%): 5.3

Application Details

Restrictions:	For Research Use only

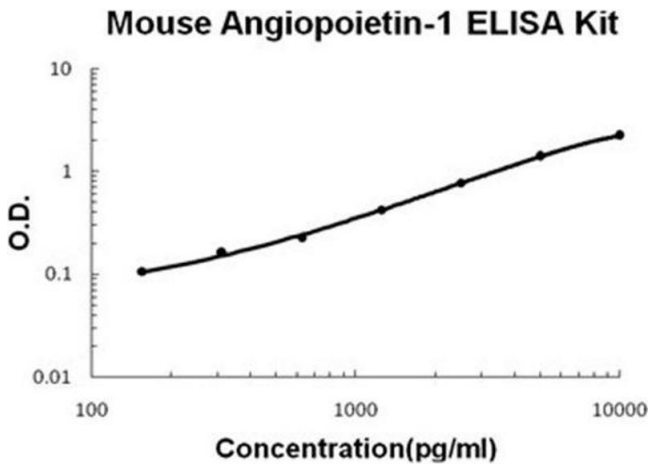
Handling

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:	Rong, Sang, Qian, Meng, Zhao, Li: "Biocompatibility of porcine small intestinal submucosa and rat endothelial progenitor cells in vitro." in: **International journal of clinical and experimental pathology**, Vol. 8, Issue 2, pp. 1282-91, (2016) (PubMed).

Images



ELISA

Image 1. Mouse Angiopoietin-1 PicoKine ELISA Kit standard curve