Datasheet for ABIN1672753

VEGFR2/CD309 ELISA Kit

1 Image | 3 Publications

Go to Product page

Overview

Quantity:	96 tests
Target:	VEGFR2/CD309 (VEGFR2)
Binding Specificity:	AA 20-764
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human VEGFR2/KDR
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: A20-E764
Specificity:	Expression system for standard: NSO Immunogen sequence: A20-E764
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<4pg/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:	VEGFR2/CD309 (VEGFR2)
Alternative Name:	KDR (VEGFR2 Products)
Background:	Protein Function: Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of angiogenesis, vascular development, vascular permeability, and embryonic hematopoiesis. Promotes proliferation, survival, migration and differentiation of endothelial cells. Promotes reorganization of the actin cytoskeleton. Isoforms lacking a transmembrane domain, such as isoform 2 and isoform 3, may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Isoform 2 plays an important role as negative regulator of VEGFA- and VEGFC-mediated lymphangiogenesis by limiting the amount of free VEGFA and/or VEGFC and preventing their binding to FLT4. Modulates FLT1 and FLT4 signaling by forming heterodimers. Binding of vascular growth factors to isoform 1 leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate and the activation of protein kinase C. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, reorganization of the actin cytoskeleton and activation of PTK2/FAK1. Required for VEGFA-mediated induction of NOS2 and NOS3, leading to the production of the signaling molecule nitric oxide (NO) by endothelial cells. Phosphorylates PLCG1. Promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1 and SRC. . Background: Vascular endothelial growth factor receptor 2(VEGFR-2) also known as Kinase insert domain receptor(KDR, a type III receptor tyrosine kinase) is a VEGF receptor. Through in situ hybridization of a genomic DNA probe to metaphase chromosomes, VEGFR2 was localized to 4q11-->q12. VEGF receptor 2 and the adherens junction act as shear-stress cotransducers, mediating the transduction of shear-stress signals into vascular endothelial cells. Synonyms: Vascular endothelial growth factor receptor 2,VEGFR-2,2.7.10.1,Fetal liver kinase 1,FLK-1,Kinase insert domain receptor,KDR,Protein-tyrosine kinase receptor flk-

Target Details

	1,CD309,KDR,FLK1, VEGFR2, Full Gene Name: Vascular endothelial growth factor receptor 2 Cellular Localisation: Cell junction . Endoplasmic reticulum . Localized with RAP1A at cell-cell junctions (By similarity). Colocalizes with ERN1 and XBP1 in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (PubMed:23529610)..
Gene ID:	3791
UniProt:	P35968
Pathways:	RTK Signaling, Glycosaminoglycan Metabolic Process, Signaling Events mediated by VEGFR1 and VEGFR2, Growth Factor Binding, Regulation of long-term Neuronal Synaptic Plasticity, VEGF Signaling

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 protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily. Tissue Specificity: Detected in cornea (at protein level). Widely expressed. .
Plate:	Pre-coated
Protocol:	human VEGFR2 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for VEGFR2 has been precoated onto 96-well plates. Standards(NSO, A20-E764) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for VEGFR2 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 VEGFR2 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL human VEGFR2 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

Application Details

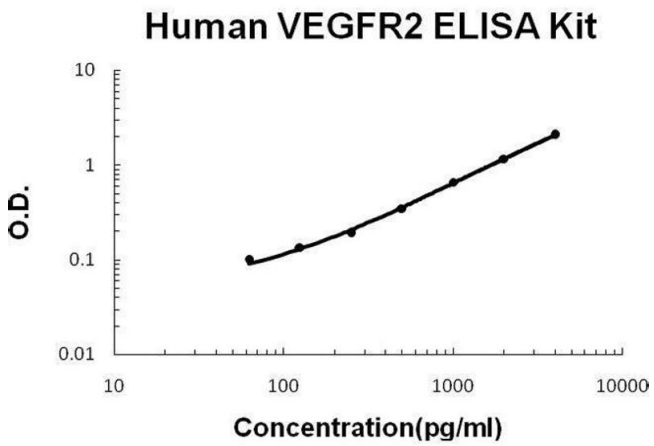
	human VEGFR2 standard solution and each sample is measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 197, Standard deviation: 9.65, CV(%): 4.9 • Sample 2: n=16, Mean(pg/ml): 1466, Standard deviation: 51.31, CV(%): 3.5 • Sample 3: n=16, Mean(pg/ml): 2458, Standard deviation: 127.8, CV(%): 5.2, • Sample 1: n=24, Mean(pg/ml): 234, Standard deviation: 17.55, CV(%): 7.5 • Sample 2: n=24, Mean(pg/ml): 1630, Standard deviation: 114.1, CV(%): 7 • Sample 3: n=24, Mean(pg/ml): 2863, Standard deviation: 177.5, CV(%): 6.2
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, Wang, Zhang, Yao, Zhao, Liu, Liu, Tao, Yu, Li, Song, Yao: "eIF3i activity is critical for endothelial cells in tumor induced angiogenesis through regulating VEGFR and ERK translation. " in: **Oncotarget**, Vol. 8, Issue 12, pp. 19968-19979, (2017) (PubMed). Bozduman, Ersoy Evans, Karahan, Hayran, Akbiyik, Lay: "Genetic Risk Factors for Psoriasis in Turkish Population: -1540 C/A, -1512 Ins18, and +405 C/G Polymorphisms within the Vascular Endothelial Growth Factor Gene." in: **Annals of dermatology**, Vol. 28, Issue 1, pp. 30-9, (2016) (PubMed). Wang, Liu, Wang, Wang: "Correlation of the expression of vascular endothelial growth factor and its receptors with microvessel density in ovarian cancer." in: **Oncology letters**, Vol. 6, Issue 1, pp. 175-180, (2013) (PubMed).



ELISA

Image 1. Human VEGFR2/KDR PicoKine ELISA Kit standard curve