Datasheet for ABIN411372

FLT1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	FLT1
Binding Specificity:	AA 27-687
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human sVEGFR1/sFLT1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: sf21 Immunogen sequence: S27-H687
Specificity:	Expression system for standard: sf21 Immunogen sequence: S27-H687
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<30pg/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:	FLT1
Alternative Name:	FLT1 (FLT1 Products)
Background:	Protein Function: Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFB and PGF, and plays an essential role in the development of embryonic vasculature, the regulation of angiogenesis, cell survival, cell migration, macrophage function, chemotaxis, and cancer cell invasion. May play an essential role as a negative regulator of embryonic angiogenesis by inhibiting excessive proliferation of endothelial cells. Can promote endothelial cell proliferation, survival and angiogenesis in adulthood. Its function in promoting cell proliferation seems to be cell-type specific. Promotes PGF-mediated proliferation of endothelial cells, proliferation of some types of cancer cells, but does not promote proliferation of normal fibroblasts (in vitro). Has very high affinity for VEGFA and relatively low protein kinase activity, may function as a negative regulator of VEGFA signaling by limiting the amount of free VEGFA and preventing its binding to KDR. Likewise, isoforms lacking a transmembrane domain, such as isoform 2, isoform 3 and isoform 4, may function as decoy receptors for VEGFA. Modulates KDR signaling by forming heterodimers with KDR. Ligand binding leads to the activation of several signaling cascades. Activation of PLCG leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate and the activation of protein kinase C. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, leading to activation of phosphatidylinositol kinase and the downstream signaling pathway. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Phosphorylates SRC and YES1, and may also phosphorylate CBL. Isoform 1 phosphorylates PLCG. Promotes phosphorylation of AKT1 at 'Ser-473'. Promotes phosphorylation of PTK2/FAK1. Isoform 7 has a truncated kinase domain, it increases phosphorylation of SRC at 'Tyr-418' by unknown means and promotes tumor cell invasion. . Background: sVEGFR1, also known as sFMS-related tyrosine kinase 1(sFLT1). Oncogene sFLT belongs to the src gene family and is related to oncogene ROS . Like other members of this

Target Details

	family, it shows tyrosine protein kinase activity that is important for the control of cell proliferation and differentiation. sFLT is mapped to 13q12. sVEGF receptor 1 signaling is essential for osteoclast development and bone marrow formation in colony-stimulating factor 1-deficient mice. The standard product used in this kit is recombinant human sVEGFR1, consisting of 905 amino acids with the molecular mass of 100KDa. Synonyms: Vascular endothelial growth factor receptor 1,VEGFR-1,2.7.10.1,Fms-like tyrosine kinase 1,FLT-1,Tyrosine-protein kinase FRT,Tyrosine-protein kinase receptor FLT,FLT,Vascular permeability factor receptor,FLT1,FLT, FRT, VEGFR1, Full Gene Name: Vascular endothelial growth factor receptor 1 Cellular Localisation: Isoform 1: Cell membrane, Single-pass type I membrane protein. Endosome. Autophosphorylation promotes ubiquitination and endocytosis.
Gene ID:	2321
UniProt:	P17948
Pathways:	RTK Signaling, Signaling Events mediated by VEGFR1 and VEGFR2, VEGFR1 Specific Signals

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 normal lung, but also in placenta, liver, kidney, heart and brain tissues. Specifically expressed in most of the vascular endothelial cells, and also expressed in peripheral blood monocytes. Isoform 2 is strongly expressed in placenta. Isoform 3 is expressed in corneal epithelial cells (at protein level). Isoform 3 is expressed in vascular smooth muscle cells (VSMC). .
Plate:	Pre-coated
Protocol:	human sVEGFR1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for sVEGFR1 has been precoated onto 96-well plates. Standards(sf21, S27-H687) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for sVEGFR1 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

Application Details

	produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human sVEGFR1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL human sVEGFR1 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(EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human sVEGFR1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 367, Standard deviation: 15.41, CV(%): 4.2 • Sample 2: n=16, Mean(pg/ml): 2835, Standard deviation: 130.4, CV(%): 4.6 • Sample 3: n=16, Mean(pg/ml): 5213, Standard deviation: 255.4, CV(%): 4.9, • Sample 1: n=24, Mean(pg/ml): 530, Standard deviation: 27.56, CV(%): 5.2 • Sample 2: n=24, Mean(pg/ml): 3015, Standard deviation: 180.9, CV(%): 6 • Sample 3: n=24, Mean(pg/ml): 6142, Standard deviation: 399.2, CV(%): 6.5
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

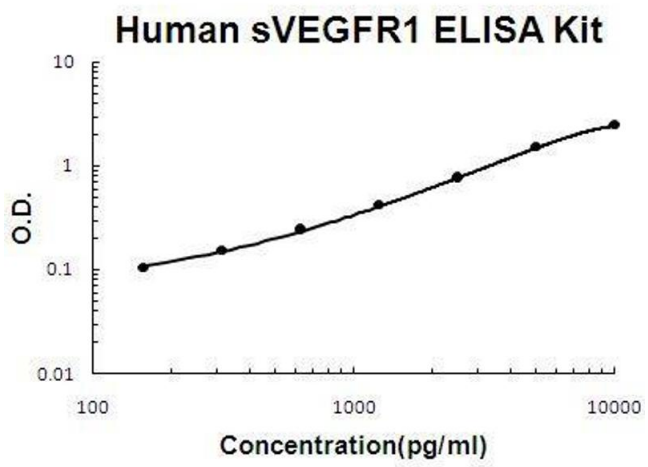
Product cited in:	Rubiś, Wiśniowska-Smiałek, Wypasek, Rudnicka-Sosin, Hlawaty, Leśniak-Sobelga, Kostkiewicz, Podolec et al.: "12-month patterns of serum markers of collagen synthesis, transforming growth factor and connective tissue growth factor are similar in new-onset and chronic dilated cardiomyopathy in patients both ..." in: **Cytokine**, Vol. 96, pp. 217-227, (2018) (PubMed). Xie, Liao, Yu, Guo, Yang, Ge, Chen, Chen: "Endothelial-to-mesenchymal transition in human idiopathic dilated cardiomyopathy." in: **Molecular medicine reports**, Vol. 17, Issue 1, pp. 961-969, (2018) (PubMed). Rubiś, Wiśniowska-Śmiałek, Dziewięcka, Rudnicka-Sosin, Kozanecki, Podolec: "Prognostic value

of fibrosis-related markers in dilated cardiomyopathy: A link between osteopontin and cardiovascular events." in: **Advances in medical sciences**, Vol. 63, Issue 1, pp. 160-166, (2018) (PubMed).

Rubiś, Wiśniowska-Śmialek, Wypasek, Biernacka-Fijalkowska, Rudnicka-Sosin, Dziewiecka, Faltyn, Khachatryan, Karabinowska, Kozanecki, Tomkiewicz-Pająk, Podolec: "Fibrosis of extracellular matrix is related to the duration of the disease but is unrelated to the dynamics of collagen metabolism in dilated cardiomyopathy." in: **Inflammation research : official journal of the European Histamine Research Society ... [et al.]**, Vol. 65, Issue 12, pp. 941-949, (2016) (PubMed).

Rubiś, Wiśniowska-Śmiałek, Biernacka-Fijałkowska, Rudnicka-Sosin, Wypasek, Kozanecki, Dziewięcka, Faltyn, Karabinowska, Khachatryan, Hlawaty, Leśniak-Sobelga, Kostkiewicz, Płazak, Podolec: "Left ventricular reverse remodeling is not related to biopsy-detected extracellular matrix fibrosis and serum markers of fibrosis in dilated cardiomyopathy, regardless of the definition used for LVRR." in: **Heart and vessels**, Vol. 32, Issue 6, pp. 714-725, (2016) (PubMed).

Images



ELISA

Image 1. Human sVEGFR1/sFLT1 PicoKine ELISA Kit standard curve