

## Datasheet for ABIN411369

### VEGF ELISA Kit



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#### Overview

Quantity:	96 tests
Target:	VEGF
Binding Specificity:	AA 27-191
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	31.2-2000 pg/mL
Minimum Detection Limit:	31.2 pg/mL
Application:	ELISA

#### Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human VEGF
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Plasma (citrate)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: sf21 Immunogen sequence: A27-R191
Specificity:	Expression system for standard: sf21,A27-R191
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Sensitivity:	<1pg/mL

## Product Details

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
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## Target Details

Target:	VEGF
Abstract:	<a href="#">VEGF Products</a>
Background:	<p>Protein Function: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. Induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis and induces permeabilization of blood vessels. Binds to the FLT1/VEGFR1 and KDR/VEGFR2 receptors, heparan sulfate and heparin. NRP1/Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. Isoform VEGF165B binds to KDR but does not activate downstream signaling pathways, does not activate angiogenesis and inhibits tumor growth. .</p> <p>Background: Vascular permeability factor/vascular endothelial growth factor(VPF/VEGF), a potent cytokine expressed by most malignant tumors, has critical roles in vasculogenesis and both physiological and pathological angiogenesis.VEGF produced by tumor cells potently stimulates endothelial cell proliferation and angiogenesis and plays a key role in the pathophysiology of several neoplasias. VEGF may also play a pivotal role in mediating the development and progression of diabetic retinopathy.VEGF, a major regulator of angiogenesis, binds to two receptor tyrosine kinases, KDR/Flk-1 and Flt-1. The VEGF gene is mapped by fluorescence in situ hybridization to chromosome 6p12.</p> <p>Synonyms: Vascular endothelial growth factor A,VEGF-A,Vascular permeability factor,VPF,VEGFA,VEGF,</p> <p>Full Gene Name: Vascular endothelial growth factor A</p> <p>Cellular Localisation: Secreted . VEGF121 is acidic and freely secreted. VEGF165 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF189 is very basic, it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin.</p>
Gene ID:	7422
UniProt:	<a href="#">P15692</a>

## 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 PDGF/VEGF growth factor family.  Tissue Specificity: Isoform VEGF189, isoform VEGF165 and isoform VEGF121 are widely expressed. Isoform VEGF206 and isoform VEGF145 are not widely expressed. A higher level expression seen in pituitary tumors as compared to the pituitary gland. .
Plate:	Pre-coated
Protocol:	human VEGF ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for VEGF has been precoated onto 96-well plates. Standards (sf21,A27-R191) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for VEGF 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 VEGF amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL human VEGF 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, citrate) to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each human VEGF standard solution and each sample is measured in duplicate.

Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(pg/ml): 146, Standard deviation: 6.57, CV(%): 4.5</li><li>• Sample 2: n=16, Mean(pg/ml): 650, Standard deviation: 24.7, CV(%): 3.8</li><li>• Sample 3: n=16, Mean(pg/ml): 1173, Standard deviation: 63.34, CV(%): 5.4,</li><li>• Sample 1: n=24, Mean(pg/ml): 242, Standard deviation: 12.1, CV(%): 5</li><li>• Sample 2: n=24, Mean(pg/ml): 567, Standard deviation: 27.78, CV(%): 4.9</li><li>• Sample 3: n=24, Mean(pg/ml): 1084, Standard deviation: 70.46, CV(%): 6.5</li></ul>
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Restrictions:	For Research Use only
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## Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C

## Handling

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Storage Comment: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

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Expiry Date: 12 months

## Publications

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Product cited in: Lin, Fang, Su, Li, Wang, Liao, Hu, Ye, Fang, Luo, Lin, Pan, Wang, Zhang: "DHX32 Promotes Angiogenesis in Colorectal Cancer Through Augmenting  $\beta$ -catenin Signaling to Induce Expression of VEGFA." in: **EBioMedicine**, Vol. 18, pp. 62-72, (2018) ([PubMed](#)).

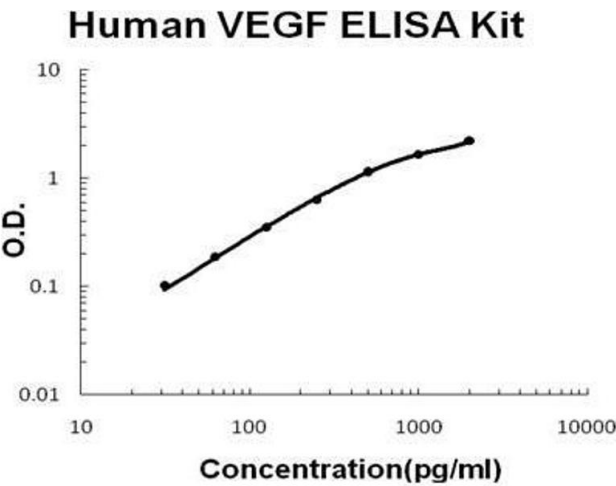
A, Li, Zhao: "The expression and underlying angiogenesis effect of DPC4 and VEGF on the progression of cervical carcinoma." in: **Oncology letters**, Vol. 15, Issue 2, pp. 2534-2540, (2018) ([PubMed](#)).

Hu, Li, Liu, Xu, Lai, Luo, Hu, Yang: "Histone demethylase KDM4D promotes gastrointestinal stromal tumor progression through HIF1 $\beta$ /VEGFA signalling." in: **Molecular cancer**, Vol. 17, Issue 1, pp. 107, (2018) ([PubMed](#)).

Li, Wu, Chen, Qiu: "Elevated expression levels of serum insulin-like growth factor-1, tumor necrosis factor- $\alpha$  and vascular endothelial growth factor 165 might exacerbate type 2 diabetic nephropathy." in: **Journal of diabetes investigation**, Vol. 8, Issue 1, pp. 108-114, (2017) ([PubMed](#)).

Wang, Cao, Liu, Du, Wang, Chen, Liu, Wu: "5-Aminolaevulinic Acid-Based Photodynamic Therapy Restrains Pathological Hyperplasia of Fibroblasts." in: **Medical science monitor : international medical journal of experimental and clinical research**, Vol. 23, pp. 46-56, (2017) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)



**ELISA**

**Image 1.** Human VEGF PicoKine ELISA Kit standard curve