**Human VEGF ELISA Kit ab100662**

**Overview**

**Product name**  Human VEGF ELISA Kit  
**Detection method**  Colorimetric  
**Sample type**  Cell culture supernatant, Serum, Plasma  
**Assay type**  Sandwich (quantitative)  
**Sensitivity**  < 10 pg/ml  
**Range**  8.23 pg/ml - 6000 pg/ml  
**Recovery**  > 100%

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell culture supernatant</td>
<td>103.5</td>
<td>92% - 113%</td>
</tr>
<tr>
<td>Serum</td>
<td>104.4</td>
<td>92% - 115%</td>
</tr>
<tr>
<td>Plasma</td>
<td>105.7</td>
<td>93% - 114%</td>
</tr>
</tbody>
</table>

**Assay duration**  Multiple steps standard assay  
**Species reactivity**  Reacts with: Human  
**Product overview**  Abcam’s VEGF Human ELISA (Enzyme-Linked Immunosorbent Assay) kit is an *in vitro* enzyme-linked immunosorbent assay for the quantitative measurement of Human VEGF in serum, plasma and cell culture supernatants.  
This assay employs an antibody specific for Human VEGF coated on a 96-well plate. Standards and samples are pipetted into the wells and VEGF present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-Human VEGF antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of VEGF bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm.

**Notes**  Optimization may be required with urine samples.  
**Tested applications**  Suitable for: Sandwich ELISA  
**Platform**  Microplate
**Storage instructions**
Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
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</thead>
<tbody>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>300X HRP-Streptavidin Concentrate</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>5X Assay Diluent B</td>
<td>1 x 15ml</td>
</tr>
<tr>
<td>Assay Diluent A</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>Biotinylated anti-Human VEGF</td>
<td>2 vials</td>
</tr>
<tr>
<td>Recombinant Human VEGF Standard (lyophilized)</td>
<td>2 vials</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 8ml</td>
</tr>
<tr>
<td>TMB One-Step Substrate Reagent</td>
<td>1 x 12ml</td>
</tr>
<tr>
<td>VEGF Microplate (12 x 8 wells)</td>
<td>1 unit</td>
</tr>
</tbody>
</table>

**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.

**Tissue specificity**
Isoform VEGF189, isoform VEGF165 and isoform VEGF121 are widely expressed. Isoform VEGF206 and isoform VEGF145 are not widely expressed.

**Involvement in disease**
Defects in VEGFA are a cause of susceptibility to microvascular complications of diabetes type 1 (MVCD1) [MIM:603933]. These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis.

**Sequence similarities**
Belongs to the PDGF/VEGF growth factor family.

**Cellular localization**
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.

**Applications**
Our Abpromise guarantee covers the use of ab100662 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Application | Abreviews | Notes
---|---|---
Sandwich ELISA | | Use at an assay dependent concentration.

Images

![VEGF measured in biological fluids showing quantity (pg) per milliliter of sample tested](image1)

![Curves showing concentrations huVEGF165 in NIBSC 02/286 using ab100662 VEGF human](image2)

![Representative standard curve using ab100662](image3)
Representative standard curve using ab100662

Typical standard curve

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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