

**PRODUCT DATA SHEET**
**Human VEGF ELISA Kit**
**Description**

Vascular endothelial growth factor (VEGF or VEGF-A), also known as vascular permeability factor (VPF), is a 45 kDa homodimeric, disulfide-linked glycoprotein produced by many cell types that facilitates angiogenesis and vasculogenesis.

The VEGF family includes VEGF-A, VEGF-B, VEGF-C, VEGF-D, VEGF-E (Orf-VEGF), and PlGF (placental growth factor). There are multiple isoforms of VEGF-A expressed from alternative splicing of mRNA from a single VEGFA gene, among which VEGF<sub>165</sub> is the most abundant isoform and essential for angiogenesis.

VEGF regulates a variety of functions, including proliferation and survival of endothelial cells, vascular permeability, cell migration in macrophage lineage, wound healing, bone formation, and development of embryonic vasculature. VEGF-A activates two receptors, VEGFR-1, and VEGFR-2, to regulate angiogenesis and vascular permeability, while VEGF-C and VEGF-D bind their receptor, VEGFR-3, mainly regulating lymphangiogenesis. VEGF expression is induced by hypoxia and cytokines like IL-1, IL-6, IL-8, and TNF-alpha.

In diseased condition, elevated level of VEGF is associated with Crow-Fukase syndrome which affects multiple organs in the body. VEGF also contributes to tumor metastasis by promoting vascular permeability and tumor angiogenesis, which compelled the development of therapeutic strategies to antagonize VEGF-VEGFR-mediated tumor. Circulating VEGF levels correlate with disease activity in autoimmune diseases such as rheumatoid arthritis, multiple sclerosis, and systemic lupus erythematosus.

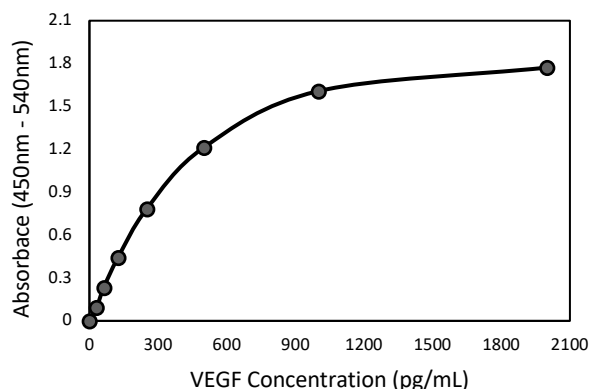
**Contents**

Pre-coated strip microplate (8X12)	96 wells
10X Wash Buffer	50 mL
1X Sample Diluent	50 mL
1X Assay Diluent A	50 mL
1X Assay Diluent B	50 mL
1X Detection Diluent	50 mL
Biotinylated anti-Human VEGF	1 vial
VEGF Standard	1 vial
200X HRP-Streptavidin Conjugate	150 µL
1X One-step TMB Substrate	12 mL
1X Stop Solution	8 mL
Adhesive Plate Covers	1 count

**Features**

The Human VEGF solid-phase sandwich ELISA is designed to quantify the target analyte “sandwiched” between a matched antibody pair. The microplate wells supplied with the kit are pre-coated with a target-specific antibody. Upon adding the samples, standards, or controls, the target is captured by the immobilized antibody and subsequently binds to the next added detector antibody.

A secondary enzyme conjugate binds the target attached detector antibody and a substrate solution reacts with the enzyme-antibody-target complex to develop a measurable colored end-product which correlates to the concentration of target analyte present in the original sample. See manual for more information on the assay procedure.


**Characteristics**

Protein name	VEGF
Alternate names	Vascular endothelial growth factor A, vascular endothelial growth factor A121, vascular endothelial growth factor A165, Vascular permeability factor, VEGF-A, VPF
Species reactivity	Human
Assay format	Solid-phase Sandwich ELISA (quantitative)
Sample type	Serum, Cell culture supernatant
Sample volume	100 µL
Assay length	4.5 hrs
Analytical sensitivity	<30 pg/mL
Assay range	31.25 – 2000 pg/mL
Intra-assay CV	<8%
Inter-assay CV	<10%
Serum recovery	95.3%
Detection & Instrument	Colorimetric, Microplate Reader
UniProt ID	(Human) P15692

**Canada, Europe, Asia, Pacific and Africa**

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**Validation**

Each manufactured lot of this ELISA kit is quality tested for criteria such as sensitivity, specificity, precision, and lot-to-lot consistency. See manual for more information on validation.

**Storage**

This product should be stored at 2-8°C. Do not freeze. If stored as specified, the ELISA Plates and reagents are stable for at least 12 months.

**Precautions and Disclaimer**

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization. Please consult the Material Safety Data Sheet available online at [www.cytodiagnosics.com](http://www.cytodiagnosics.com) for information regarding hazards and safe handling procedures.

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