

## Product datasheet

# Recombinant human VEGF 165A protein (Active) ab9571

★★★★★ [1 Abreviews](#) [11 References](#) [1 Image](#)

### Description

<b>Product name</b>	Recombinant human VEGF 165A protein (Active)
<b>Biological activity</b>	Determined by its ability to stimulate the proliferation of human umbilical vein endothelial cells (HUVEC). The expected ED <sub>50</sub> for this effect is 1.0-10.0ng/ml.
<b>Purity</b>	> 98 % SDS-PAGE. > 98% HPLC analyses. Sterile filtered
<b>Endotoxin level</b>	< 1.000 Eu/μg
<b>Expression system</b>	Escherichia coli
<b>Accession</b>	<b><u>P15692-4</u></b>
<b>Protein length</b>	Full length protein
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Sequence</b>	APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECV TTESNITMQI MRKPHQGQH IGEMSFLQHN KCECRPKKDR ARQENPCGPC SERRKHLFVQ DPQTCKCCK NTDSRCKARQ LELNERTCRC DKPRR
<b>Predicted molecular weight</b>	38 kDa
<b>Amino acids</b>	27 to 191
<b>Additional sequence information</b>	aa 27-232 is the full length mature protein minus the signal peptide.

### Specifications

Our **Abpromise guarantee** covers the use of **ab9571** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	HPLC
	Cell Differentiation
	Cellular Activation

Functional Studies

SDS-PAGE

**Form** Lyophilized

## Preparation and Storage

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**Stability and Storage** Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

**Reconstitution** Reconstitute in 100 µl dH<sub>2</sub>O

## General Info

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**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.

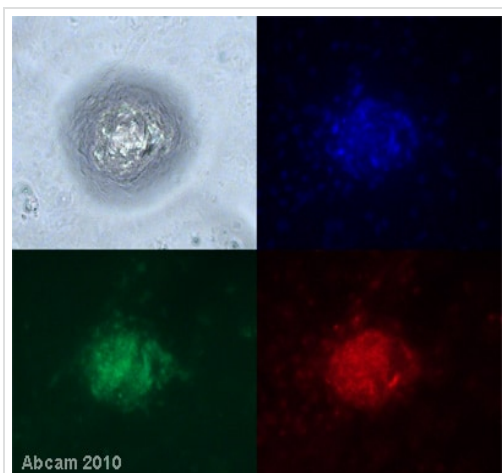
**Involvement in disease** Defects in VEGFA are a cause of susceptibility to microvascular complications of diabetes type 1 (MVCD1) [MM:603933]. These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic 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.

## Images

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Cell differentiation - Recombinant human VEGF  
165A protein (Active) (ab9571)

This image is courtesy of Sun Yung, Centro de Investigación Príncipe Felipe.

Human embryonic stem cells (H9) were differentiated both as embryoid bodies and monolayer cultures (on Matrigel) using a protocol described in Kennedy et al., 2006. BMP-4, FGF-basic ([ab9596](#)) and VEGF (ab9571) were sequentially added to the media to direct differentiation. These images were taken at day 8, where cell adhesion antigens CD31 ([ab32457](#) in green) and CD34 ([ab8536](#) in red) are abundant and represent primitive haematopoietic cells within the culture. DAPI staining is shown in blue.

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

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