

Product datasheet

Recombinant human VEGFA protein ab50078

1 References

Description

Product name	Recombinant human VEGFA protein	
Biological activity	Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 0.2-0.4 ng/ml.	
Purity	> 95 % SDS-PAGE. ab50078 purity was determined also by HPLC Endotoxin level is less than 0.1 ng per µg (1EU/µg).	
Expression system	Escherichia coli	
Accession	P15692-9	
Protein length	Full length protein	
Animal free	No	
Nature	Recombinant	
Species	Human	
Sequence	APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYFKPS CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQENCDKPR R	
Amino acids	27 to 232	
Additional sequence information	Recombinant Human VEGF121 is a 28.4 kDa, disulfide-linked homodimeric protein consisting of two 121 amino acid polypeptide chains.	

Specifications

Our [Abpromise guarantee](#) covers the use of **ab50078** in the following tested applications.

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

Applications	SDS-PAGE Functional Studies
Form	Lyophilized

Preparation and Storage

Stability and Storage Shipped at 4°C. The lyophilized protein is stable for a few weeks at room temperature. Store at -

20°C long term.

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

Reconstitution

Reconstitute to 1mg/ml in distilled water

General Info

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.

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