Datasheet for ABIN2181903

VEGF Protein (AA 27-191)

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Overview

Quantity:	50 µg
Target:	VEGF
Protein Characteristics:	AA 27-191
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active

Product Details

Brand:	ActiveMax®
Sequence:	AA 27-191
Characteristics:	This protein carries no "tag". The protein has a calculated MW of 19 kDa (monomer). As a result of glycosylation, the protein migrates as 24 kDa (monomer) under reducing (R) condition, and 43-50 kDa (homodimer) under non-reducing (NR) condition (SDS-PAGE).
Purity:	>98 % as determined by SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 1.0 EU per µg by the LAL method.
Grade:	HPLC verified

Target Details

Target:	VEGF
Alternative Name:	VEGF (VEGF Products)
Background:	VEGF165 is the most abundant splice variant of VEGF-A. VEGF165 is produced by a number of cells including endothelial cells, macrophages and T cells. VEGF165 is involved in angiogenesis, vascular endothelial cell survival, growth, migration and vascular permeability. VEGF gene expression is induced by hypoxia, inflammatory cytokines and oncogenes. VEGF165 binds to heparan sulfate and is retained on the cell surface and in the extracellular matrix. VEGF165 binds to the receptor tyrosine kinases, VEGFR1 and VEGFR2. VEGF165 is the only splice variant that binds to co-receptors NRP-1 and NRP-2 that function to enhance VEGFR2 signaling. Binding of VEGF165 to VEGFR1 and VEGFR2 leads to activation of the PI3K/AKT, p38 MAPK, FAK and paxillin. VEGF plays a key role in tumor angiogenesis in many cancers.
Molecular Weight:	19.2 kDa
NCBI Accession:	NP_001165097

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Buffer:	PBS, pH 7.4
Handling Advice:	Please avoid repeated freeze-thaw cycles.
Storage:	-20 °C
Storage Comment:	No activity loss was observed after storage at: In lyophilized state for 1 year (4 °C), After reconstitution under sterile conditions for 3 months (-70 °C).

Publications

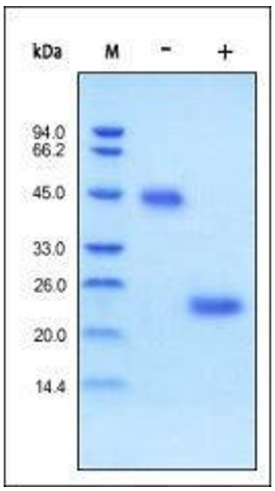
Product cited in:	Stumpf, Wimmer, Lorenz, Stieger: "Creation of different bioluminescence resonance energy transfer based biosensors with high affinity to VEGF." in: **PLoS ONE**, Vol. 15, Issue 3, pp. e0230344, (2020) (PubMed). Chen, Hsueh, Lee, Tsai, Tsai, Chiang: "FGF primes angioblast formation by inducing ETV2 and LMO2 via FGFR1/BRAF/MEK/ERK." in: **Cellular and molecular life sciences : CMLS**, (2020) (

Publications

PubMed).

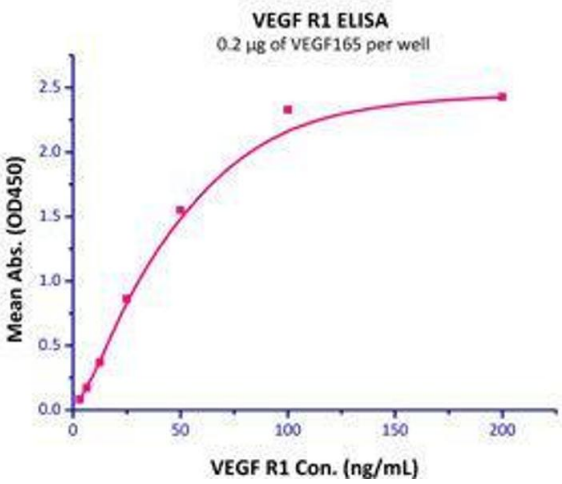
Keys, Wetter, Hang, Rutschmann, Russo, Mally, Steffen, Zuppiger, Müller, Schneider, Faridmoayer, Lin, Aebi: "A biosynthetic route for polysialylating proteins in Escherichia coli." in: **Metabolic engineering**, Vol. 44, pp. 293-301, (2018) (PubMed).

Images



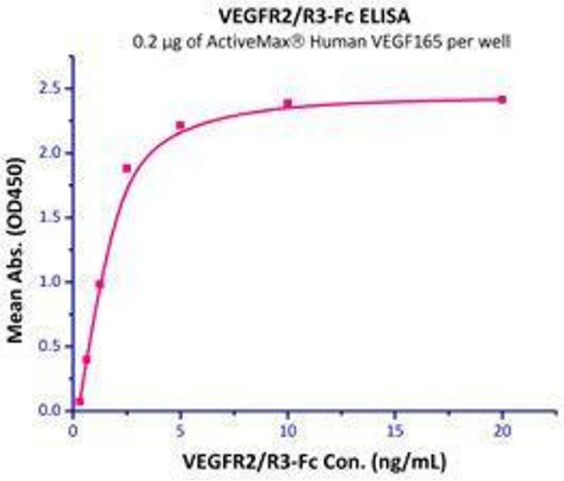
SDS-PAGE

Image 1. Human VEGF165 on SDS-PAGE under reducing (R) and no-reducing (NR) conditions. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 98%.



Binding Studies

Image 2. Immobilized Human VEGF165 with a linear range of 3-50 ng/mL.



Binding Studies

Image 3. Immobilized Human VEGF165 at 2 µg/mL can bind VEGFR2/R3-Fc with a linear range of 0.6-2.5 ng/mL.