Datasheet for ABIN2666680

VEGFA Protein (AA 27-190)

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Overview

Quantity:	10 µg
Target:	VEGFA
Protein Characteristics:	AA 27-190
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Flow Cytometry (FACS)

Product Details

Purity:	> 98 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	VEGFA
Alternative Name:	VEGF-164 (VEGFA Products)
Background:	VEGF (known also as VEGFA) was initially identified in conditioned medium from bovine pituitary follicular cells. VEGFA belongs to the VEGF family, which has the following members: VEGF-A, VEGF-B, VEGF-C (VEGF-2), VEGF-D, and PlGF (placental growth factor). In addition, viral VEGF homologs (collectively called VEGF-E) and snake venom VEGFs, such as T.f.

Target Details

	(Trimeresurus flavoviridis) and svVEGF (called VEGF-F), have been described. VEGFA is alternatively spliced to generate variants with different numbers of amino acids, such as VEGFA120, VEGFA144, VEGFA164, and VEGFA188. VEGFA164 is predominant and responsible for VEGFA biological potency. While VEGF120 is freely diffusible and does not bind to neuropilins (NRPs) or heparan sulphate (HS), VEGF164 and VEGF187 bind to both, resulting in retention on the cell surface or in the extracellular matrix. NRP1 lacks a typical kinase domain and acts as a co-receptor, and in response to VEGF164, NRP1 couples with VEGF-Rs to signal in endothelial cells. In addition, it has been suggested that bone marrow cells that are recruited to Ewing's tumors are differentiated into vascular smooth muscle cells, and VEGF164 is responsible for this differentiation. VEGFA is highly expressed in most of the solid tumors generated in breast, lung, renal, colorectal, and liver tissues. VEGFA has strong vascular permeability activity, and significantly contributes to the formation of ascites tumors. VEGFA can act as a direct proinflammatory mediator during the pathogenesis of rheumatoid arthritis (RA), and protect rheumatoid synoviocytes from apoptosis, which contributes to synovial hyperplasia. VEGFA is expressed in synovial macrophages and synovial fibroblasts in RA patients. Also, VEGFA is associated to age-related macular degeneration (AMD). AMD is due to neovascularization that originates from endothelial cells in the choroid that grow into neurosensory retina as choroidal neovascularization (CNV).
Molecular Weight:	The 164 amino acid recombinant protein has a predicted molecular mass of approximately 19.27 kDa. The DTT-reduced protein migrates at approximately 28 kDa and non-reduced protein migrates at 50 kDa by SDS-PAGE. The N-terminal amino acid is Alanine.
Pathways:	RTK Signaling, Glycosaminoglycan Metabolic Process, Regulation of Cell Size, Tube Formation, Signaling Events mediated by VEGFR1 and VEGFR2, Platelet-derived growth Factor Receptor Signaling, VEGFR1 Specific Signals, VEGF Signaling

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: ED50 = 1- 4 ng/ml, corresponding to a specific activity of 0.25 - 1 x 106 units/mg, as determined by the dose dependent stimulation of HUVEC cells proliferation.
Restrictions:	For Research Use only

Handling

Format:	Liquid

Handling

Reconstitution:	For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored from -20 °C to -70 °C. Stock solutions can also be prepared at 50-100 µg/mL in sterile buffer (PBS, HPBS, DPBS, or EBSS) containing carrier protein such as 0.2-1 % BSA or HSA and stored in working aliquots at -20 °C to -70 °C.
Buffer:	0.22 µm filtered protein solution is in 5 mM citric acid, 5 mM NaHPO4, 0.15 M NaCl, pH 4.0.
Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for one month, at -20°C for six months, or at -70°C for one year.