Datasheet for ABIN2667602

VEGFA Protein (AA 27-190)

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Overview

Quantity:	10 µg
Target:	VEGFA
Protein Characteristics:	AA 27-190
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Flow Cytometry (FACS)

Product Details

Purity:	>98 % , as determined by Coomassie stained SDS-PAGE and HPLC analysis.
Endotoxin Level:	Less than 0.1 ng per µg of protein.

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. (Trimeresurus flavoviridis) and svVEGF (called VEGF-F), have been described. VEGFA is

Target Details

	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 165 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 19.4 kDa. The predicted N-terminal amino acid is Met. Recombinant Mouse VEGF164 is a disulfide bond linked homodimer.
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 is between 1.0 - 5.0 ng/ml, corresponding to a specific activity of 0.2 - 1.0 x 106 units/mg as determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC).
Restrictions:	For Research Use only

Handling

Format:	Lyophilized

Handling

Reconstitution:	For maximum results, quick spin vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/mL. Do not vortex. It is recommended to further dilute in a buffer, such as 5 % Trehalose, and store working aliquots at -20 °C to -80 °C.
Buffer:	Lyophilized, carrier-free.
Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored at -20°C or -70°C.