ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Monoclonal Anti-Human VEGF

Cat. VEGF12-M Mouse Monoclonal Anti-Human VEGF, aff pure IgG **SIZE**: 100 ug

Embryonic vascular system undergoes a series of complex, highly regulated series of events involving differentiation, migration and association of primitive endothelial cells. This process is termed vasculogenesis. Study of tumor angiogenesis has led to the identification of several proteins including basic fibroblast growth factor (bFGF) and vascular endothelial growth factor. VEGF acts by interacting with a family of largely endothelial-specific receptor tyrosine kinases that includes VEGFR-1 (flt-1), VEGFR-2 (flk-1/KDR), and VEGFR-3/Flt-4. Disruption of VEGFRs interferes with differentiation of endothelial cells and it is lethal for the embryo.

VEGF is a heparin-binding glycoprotein that is secreted as a homodimer of 45 kDa. There are several splice variants of VEGF-A. The major ones include: 121, 165, 189 and 206 amino acids (aa), each one comprising a specific exon addition. VEGF121 is acidic and freely secreted. VEGF165 is more basic, has heparin-binding properties and, although a signicant 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. VEGF165 is the most predominant protein, but transcripts of VEGF121 may be more abundant. VEGF206 is rarely expressed and has been detected only in fetal liver. Recently, other splice variants of 145 and 183 aa have also been described. The 165, 189 and 206 aa splice variants have heparin-binding domains, which help anchor them in extracellular matrix and are involved in binding to heparin sulfate and presentation to VEGF receptors. This is a key factor for VEGF potency (i.e., the heparin-binding forms are more active). VEGF-A is regulated by growth factors, cytokines, gonadotropins, nitric oxide, hypoxia, hypoglycemia and oncogenic mutations.

Source of Antigen and Antibodies

Antigen	Recombinant purified human VEGF165 protein
Ab Host/type	Mouse, monoclonal IgG2b; Protein A pure IgG (**cat #VEGF12-M)**
2-ab	**Goat Anti-mouse IgG-HRP conjugate** Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	**Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control**

Form & Storage of Antibodies

Affinity pure IgG

(100 ug/100ul (solution (lyophilized powder

Supplied in **Buffer**: PBS+0.1% BSA

Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting 1-3 ug/ml using ECL.

ELISA (0.1-1 ug/ml in direct ELISA. Detection limit is 1-5 ng/ml.

Histochemistry & Immunofluorescence: not tested. Suggested antibody concn 10-20 ug/ml.

Immunoneutralization

This antibody will neutralize the biological activity of human VEGF (ND50=0.05-0.10 ug/ml) in the presence of 10 ng/ml of rhVEGF in HuVEC cells. ND50 will vary according the cells and other conditions and it must be tested under specified conditions.

Specificity & Cross-reactivity

VEGF12-M reacts with VGEF165 and VEGF121 isoforms. There is minimal (<10%) cross reaction with mouse and rat VEGF. Antibody crossreactivity in other species is not established. We recommend the use of control proteins to establish antibody specificity.

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to Ang-1, Ang-2, Tie-1, Tie-2; Recombinant Mouse and Human VEGFs

Anti-flk-1, Flt-1, and Flt-4 (VEGFRs 1-3)

Western Blot recycling kit (Use the same blot to probe with multiple antibodies Ang-1 and Ang-2, etc.) **recycle blot at room temp in 5-10 min**; No mercaptoethanol or heating required).

VEGF12-M 80904A

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