Human VEGF<sub>165</sub> Antibody
Polyclonal Goat IgG
Catalog Number: AB-293-NA

**DESCRIPTION**

<table>
<thead>
<tr>
<th>Species Reactivity</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specificity</td>
<td>Detects human VEGF&lt;sub&gt;165&lt;/sub&gt; and human VEGF&lt;sub&gt;121&lt;/sub&gt; in direct ELISAs and Western blots. In direct ELISAs, less than 10% cross-reactivity with recombinant mouse VEGF and recombinant rat VEGF is observed.</td>
</tr>
<tr>
<td>Source</td>
<td>Polyclonal Goat IgG</td>
</tr>
<tr>
<td>Purification</td>
<td>Protein A or G purified</td>
</tr>
<tr>
<td>Immunogen</td>
<td>S. frugiperda insect ovarian cell line Sf21-derived recombinant human VEGF&lt;sub&gt;165&lt;/sub&gt; Ala27-Arg191 Accession # AAV38412</td>
</tr>
<tr>
<td>Endotoxin Level</td>
<td>&lt;0.10 EU per 1 µg of the antibody by the LAL method.</td>
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<tr>
<td>Formulation</td>
<td>Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.</td>
</tr>
</tbody>
</table>

**APPLICATIONS**

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

**Recommended Concentration**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Western Blot</th>
<th>Immunohistochemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recombinant Human VEGF&lt;sub&gt;165&lt;/sub&gt; (Catalog # 293-VE)</td>
<td>1 µg/mL</td>
<td>5-15 µg/mL</td>
</tr>
</tbody>
</table>

**Neutralization**

Neutralization was measured by its ability to neutralize VEGF<sub>165</sub>-induced proliferation in HUVEC human umbilical vein endothelial cells. Conn, G. et al. (1990) Proc. Natl. Acad. Sci USA 87:1323. The Neutralization Dose (ND<sub>50</sub>) is typically 0.6-3.0 µg/mL in the presence of 10 ng/mL Recombinant Human VEGF<sub>165</sub>.

**DATA**

**Immunohistochemistry**

**VEGF<sub>165</sub> in Human Breast Cancer Tissue.** VEGF<sub>165</sub> was detected in immersion fixed frozen sections of human breast cancer tissue using 5 µg/mL Human VEGF<sub>165</sub> Polyclonal Antibody (Catalog # AB-293-NA) overnight at 4 °C. Tissue was stained (red) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

**Immunohistochemistry**

**VEGF in Human Breast Cancer Tissue.** VEGF was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Human VEGF 165 Polyclonal Antibody (Catalog # AB-293-NA) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.
**PREPARATION AND STORAGE**

**Reconstitution**
Reconstitute at 1 mg/mL in sterile PBS.

**Shipping**
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**
- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

Vascular Endothelial Growth Factor (VEGF or VEGF-A), also known as Vascular Permeability Factor (VPF), is a potent mediator of both angiogenesis and vasculogenesis in the fetus and adult. It is a member of the PDGF family that is characterized by the presence of eight conserved cysteine residues and a cystine knot structure. VEGF165 appears to be the most abundant and potent isoform, followed by VEGF121 and VEGF189. Human VEGF165 is an approximately 44 kDa molecular weight homodimer sharing 88% aa sequence identity with corresponding regions of mouse and rat, 96% with porcine, 95% with canine, and 93% with feline, equine and bovine VEGF, respectively. VEGF binds the type I transmembrane receptor tyrosine kinases VEGF R1 (also called Flt-1) and VEGF R2 (Flk-1/KDR) on endothelial cells. Although VEGF affinity is highest for binding to VEGF R1, VEGF R2 appears to be the primary mediator of VEGF angiogenic activity. VEGF165 binds the Semaphorin receptor, Neuropilin-1 and promotes complex formation with VEGF R2. VEGF is required during embryogenesis and functions to regulate the proliferation, migration, and survival of endothelial cells. In adults, VEGF functions mainly in wound healing and the female reproductive cycle. Pathologically, it is involved in tumor angiogenesis and vascular leakage. Circulating VEGF levels correlate with disease activity in autoimmune diseases such as rheumatoid arthritis, multiple sclerosis and systemic lupus erythematosus. VEGF is induced by hypoxia and cytokines such as IL-1, IL-6, IL-8, Oncostatin M (OSM) and TNF-alpha.