

VEGF elisa kit

Rat VEGF ELISA KIT

CATALOG #
AAA267262

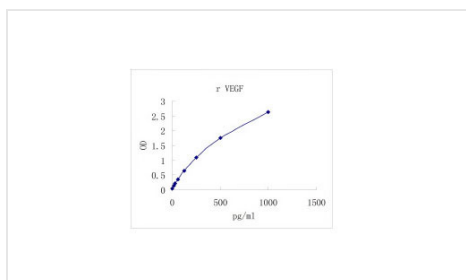
PRODUCT SYNONYMS

VEGF; Rat VEGF ELISA KIT; VEGF elisa kit

PRODUCT SPECIFICATIONS

Specificity	This assay recognizes both natural and recombinant rat VEGF. The factors listed below were prepared at 50ng/ml in Standard /sample Diluent and assayed for cross-reactivity and no significant cross-reactivity or interference was observed.
Sequence Length	173
Samples	Cell culture supernates, serum, and plasma
Assay Type	Quantitative Sandwich
Sensitivity	7pg/mL

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for VEGF elisa kit	Principle of the Assay: This assay employs the quantitative sandwich enzyme immunoassay technique. A monoclonal antibody specific for VEGF has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and any VEGF present is bound by the immobilized antibody. Following incubation unbound samples are removed during a wash step, and then a detection antibody specific for VEGF is added to the wells and binds to the combination of capture antibody- VEGF in sample. Following a wash to remove any unbound combination, and enzyme conjugate is added to the wells. Following incubation and wash steps a substrate is added. A coloured product is formed in proportion to the amount of VEGF present in the sample. The reaction is terminated by addition of acid and absorbance is measured at 450nm. A standard curve is prepared from seven VEGF standard dilutions and VEGF sample concentration determined. Background/Introduction: 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 in adults (1-3). It is a member of the PDGF family that is characterized by the presence of eight conserved cysteine residues in a cystine knot structure and formation of anti-parallel disulfide-linked dimers (4).Alternately spliced isoforms of 120, 164, and 188 amino acids (aa) have been found in rats and mice, while 121, 145, 165, 183, 189, and 206 aa isoforms have been identified in humans (2, 4). In humans, VEGF165 appears to be the most abundant and potent isoform, followed by VEGF121 and VEGF189 (3, 4). The same pattern may exist in rats and mice. Isoforms other than VEGF120 and VEGF121 contain basic heparin-binding regions and are not freely diffusible (4). Rat VEGF164 shares 97% aa sequence identity with corresponding regions of mouse, 88% with human and bovine, 89% with porcine and canine, and 90% with feline and equine VEGF. VEGF is expressed in multiple cells and tissues including skeletal and cardiac muscle (5, 6), hepatocytes (7), osteoblasts (8), neutrophils (9), macrophages (10), keratinocytes (11), brown adipose tissue (12), CD34+ stem cells (13), endothelial cells (14), fibroblasts, and vascular smooth muscle cells (15). VEGF expression is induced by hypoxia and cytokines such as IL-1, IL-6, IL-8, Oncostatin M, and TNF-alpha (3, 4, 9). The isoforms are differentially expressed during development and in the adult (3). VEGF dimers bind to two related receptor tyrosine kinases, VEGF R1 (also called Flt-1) and VEGF R2 (Flk-1/KDR) and induce their homodimerization and autophosphorylation (3, 4, 7, 17,18). These receptors have seven extracellular immunoglobulin-like domains and an intracellular split tyrosine kinase domain. They are expressed on vascular endothelial cells and a range of non-endothelial cells. Although VEGF affinity is highest for binding to VEGF R1, VEGF R2 appears to be the primary mediator of VEGF angiogenic activity (3, 4). VEGF165 also binds the semaphorin receptor, neuropilin-1, which promotes complex formation with VEGF R2 (19). VEGF is best known for its role in vasculogenesis. During embryogenesis, VEGF regulates the proliferation, migration, and survival of endothelial cells (3, 4), thus regulating blood vessel density and size but playing no role in determining vascular patterns. VEGF promotes bone formation through osteoblast and chondroblast recruitment and is also a monocyte chemoattractant (20-22). In postnatal life, VEGF maintains endothelial cell integrity and is a potent mitogen for micro- and macro-vascular endothelial cells. In adults, VEGF functions mainly in wound healing and the female reproductive cycle (3). In diseased tissues, VEGF promotes vascular permeability. It is thus thought to contribute to tumor metastasis by promoting both extravasation and tumor angiogenesis (23, 24). Various strategies have been employed therapeutically to antagonize VEGF-mediated tumor angiogenesis (25). Circulating VEGF levels correlate with disease activity in autoimmune diseases such as rheumatoid arthritis, multiple sclerosis and systemic lupus erythematosus (26).
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NCBI AND UNIPROT INFORMATION

NCBI GI #	661346603
NCBI GeneID	397157
Molecular Weight	22,368 Da
NCBI Official Full Name	VEGF, partial
NCBI Official Symbol	VEGFA
NCBI Official Synonym Symbols	VEGF
NCBI Protein Information	vascular endothelial growth factor A
UniProt Protein Name	Vascular endothelial growth factor A
UniProt Gene Name	VEGFA
UniProt Synonym Gene Names	VEGF; VEGF-A; VPF

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/elisa-kits/vegf/267262>