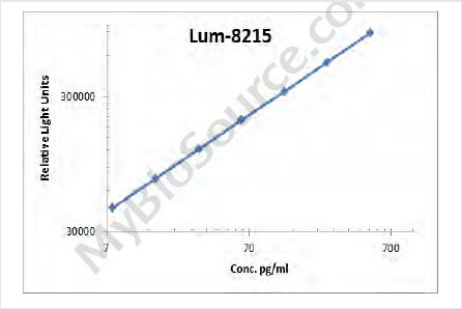
VEGF CLIA Kit for Rat

PRODUCT OVERVIEW

Product Name	VEGF, CLIA Kit
Full Product Name	VEGF (Rat) LumiAb ELISA Kit
Product Gene Name	VEGF clia kit
Product Synonym Gene Name	Vegfa/b
Product Synonym Names	Rat VEGF; Vascular endothelial growth factor A/B; Vascular permeability factor; VEGF-related factor; VRF; VPF
Species Reactivity	Rat
Assay Type	Quantitative Sandwich
Sensitivity	8 pg/ml.
Specificity	The LumiAb Rat RANTES ELISA is capable of recognizing both recombinant and naturally produced Rat RANTES proteins. The antigens listed below were tested at 50 ng/ml and exhibited 100% cross reactivity.
Preparation and Storage	Store at 4 degree C for 6 months.
3D Structure	ModBase 3D Structure for P16612
Product Categories/Family for VEGF clia kit	Luminometer Sandwich ELISA
Related Product Information for VEGF clia kit	Principle of the Assay: The LumiAb Rat RANTES Chemiluminescent ELISA Kit contains the components necessary for quantitative determination of natural or recombinant Rat RANTES concentrations within any experimental sample including cell lysates, serum and plasma. This particular immunoassay utilizes the quantitative technique of a "Sandwich" Enzyme-Linked Immunosorbent Assay (ELISA) where the target protein (antigen) is bound in a "sandwich" format by the primary capture antibodies coated to each well-bottom and the secondary detection antibodies added subsequently by the investigator. The capture antibodies coated to the bottom of each well are specific for a particular epitope on Rat RANTES while the user-added detection antibodies bind to epitopes on the captured target protein. Amid each step of the procedure, a series of wash steps must be performed to ensure the elimination of non-specific binding between proteins to other proteins or to the solid phase. After incubation and "sandwiching" of the target antigen, a peroxidase enzyme is conjugated to the constant heavy chain of the secondary antibody (either covalently or via Avidin/Streptavidin-Biotin interactions), allowing for a sensitive luminescent reaction to ensue upon substrate addition. When the Peroxide Enhancer solution is added, the reaction catalyzed by peroxidase yields light that is representative of the antigen concentration. After a brief incubation, the microplate can be read with a luminometer, allowing for generation of a standard curve and subsequent determination of protein concentration!!Background/Introduction: Rat RANTES or T-Cell Specific Protein RANTES, also known as C-C Motif Chemokine 5, is a 92 amino acid cytokine protein encoded by the Ccl5 gene located at locus 10q26 on chromosome 10. After initial synthesis of the peptide, the 24 residue signal sequence is proteolytically removed, thus allowing for RANTES to properly fold and mature. RANTES, a member of the intercrine beta (chemokine C-C) family, is essentially a chemoattractant for blood monocytes, memory T-helper cells and eosinophils. The chemokine tends to causes the release of histamine from basophils and activates eosinophils. Moreover, it may play a role in cellular responses to viral infections in testicular somatic cells.
Other Notes	Small volumes of VEGF clia kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for VEGF purchase	MBS9510870 is a CLIA kit targeting VEGF. Also known as VEGF (Rat) LumiAb ELISA Kit. Reactive in Rat.



Typical Testing Data/Standard Curve (for reference only) of VEGF clia kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for VEGF. It may not necessarily be applicable to this product.

NCBI GI #	160358797
NCBI GeneID	83785
NCBI Accession #	NP_001103804.1
UniProt Primary Accession #	P16612
UniProt Related Accession #	P16612
GenBank Nucleotide #	NM_001110334.2
NCBI Official Full Name	vascular endothelial growth factor A isoform 3
NCBI Official Synonym Full Names	vascular endothelial growth factor A
NCBI Official Symbol	Vegfa
NCBI Official Synonym Symbols	VPF; Vegf; VEGF-A; VEGF111; VEGF164
UniProt Protein Name	Vascular endothelial growth factor A
UniProt Synonym Protein Names	Vascular permeability factor; VPF
Protein Family	VEGF coregulated chemokine
UniProt Gene Name	Vegfa
UniProt Synonym Gene Names	Vegf; VEGF-A; VPF
UniProt Entry Name	VEGFA_RAT
NCBI Protein Information	vascular endothelial growth factor A
NCBI Summary for VEGF	This gene is a member of the PDGF/VEGF growth factor family. It encodes a heparin-binding protein, which exists as a disulfide-linked homodimer. This growth factor induces proliferation and migration of vascular endothelial cells, and is essential for both physiological and pathological angiogenesis. Disruption of this gene in mice resulted in abnormal embryonic blood vessel formation. This gene is upregulated in many known tumors and its expression is correlated with tumor stage and progression. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. There is also evidence for alternative translation initiation from upstream non-AUG (CUG) codons resulting in additional isoforms. A recent study showed that a C-terminally extended isoform is produced by use of an alternative in-frame translation termination codon via a stop codon readthrough mechanism, and that this isoform is antiangiogenic. Expression of some isoforms derived from the AUG start codon is regulated by a small upstream open reading frame, which is located within an internal ribosome entry site. [provided by RefSeq, Nov 2015]

UniProt Comments for VEGF	VEGF: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. Induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis and induces permeabilization of blood vessels. Binds to the FLT1/VEGFR1 and KDR/VEGFR2 receptors, heparan sulfate and heparin. NRP1/Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. Isoform VEGF165B binds to KDR but does not activate downstream signaling pathways, does not activate angiogenesis and inhibits tumor growth. Defects in VEGFA are a cause of susceptibility to microvascular complications of diabetes type 1 (MVCD1). These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis. Belongs to the PDGF/VEGF growth factor family. 13 isoforms of the human protein are produced by alternative promoter. Protein type: Cytokine; Motility/polarity/chemotaxis; Secreted; Secreted, signal peptide Cellular Component: basement membrane; cell surface; cytoplasm; extracellular region; extracellular space; nucleus; secretory granule; vesicle Molecular Function: chemoattractant activity; cytokine activity; extracellular matrix binding; fibronectin binding; growth factor activity; growth factor binding; heparin binding; identical protein binding; platelet-derived growth factor receptor binding; protein heterodimerization activity; protein homodimerization activity; receptor agonist activity; receptor binding; vascular endothelial growth factor receptor 1 binding; vascular endothelial growth factor receptor 2 binding; vascular endothelial growth factor receptor binding Biological Process: activation of CREB transcription factor; activation of protein kinase activity; aging; alveolus development; angiogenesis; artery morphogenesis; basophil chemotaxis; blood vessel development; blood vessel endothelial cell proliferation during sprouting angiogenesis; blood vessel morphogenesis; blood vessel remodeling; branching morphogenesis of a tube; camera-type eye morphogenesis; cardiac muscle fiber development; cell maturation; cell migration; cell migration during sprouting angiogenesis; cell proliferation; endothelial cell migration; epithelial cell differentiation; eye photoreceptor cell development; female pregnancy; growth; heart morphogenesis; homeostasis of number of cells within a tissue; hyaluronan metabolic process; in utero embryonic development; induction of positive chemotaxis; kidney development; lactation; lumen formation; lung development; lymphangiogenesis; macrophage differentiation; mesoderm development; monocyte differentiation; mRNA stabilization; negative regulation of apoptosis; negative regulation of bone resorption; negative regulation of caspase activity; negative regulation of cell-cell adhesion; negative regulation of fat cell differentiation; negative regulation of programmed cell death; negative regulation of transcription from RNA polymerase II promoter; nervous system development; ovarian follicle development; patterning of blood vessels; positive chemotaxis; positive regulation of angiogenesis; positive regulation of axon extension involved in axon guidance; positive regulation of blood vessel endothelial cell migration; positive regulation of cell adhesion; positive regulation of cell migration; positive regulation of cell motility; positive regulation of cell proliferation; positive regulation of endothelial cell proliferation; positive regulation of epithelial cell proliferation; positive regulation of focal adhesion formation; positive regulation of MAP kinase activity; positive regulation of mesenchymal cell proliferation; positive regulation of neuroblast proliferation; positive regulation of osteoblast differentiation; positive regulation of peptidyl-serine phosphorylation; positive regulation of peptidyl-tyrosine phosphorylation; positive regulation of positive chemotaxis; positive regulation of protein amino acid autophosphorylation; positive regulation of protein amino acid phosphorylation; positive regulation of protein complex assembly; positive regulation of receptor internalization; positive regulation of signal transduction; positive regulation of smooth muscle cell proliferation; positive regulation of transcription from RNA polymerase II promoter; positive regulation of tyrosine phosphorylation of Stat3 protein; positive regulation of vascular endothelial growth factor receptor signaling pathway; positive regulation of vascular permeability; post-embryonic camera-type eye development; regulation of cell shape; regulation of cGMP metabolic process; regulation of endothelial cell differentiation; regulation of transcription from RNA polymerase II promoter; response to cold; response to estradiol stimulus; response to folic acid; response to hypoxia; response to progesterone stimulus; response to vitamin A; surfactant homeostasis; T-helper 1 type immune response; vascular endothelial growth factor receptor signaling pathway; vasculature development; wound healing
Research Articles on VEGF	**1.** Results suggest that activation of ALDH2 by Alda-1 improves depressive-like behavior in rats after myocardial infarction by increasing VEGF expression in the hippocampus of rats.
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