



# Recombinant Protein Technical Manual

## Recombinant Rat VEGF-A/VEGF164 Protein

RPES0320

### Product Data:

**Product SKU:** RPES0320

**Size:** 10µg

**Species:** Rat

**Expression host:** Yeast

**Uniprot:** P16612-2

### Protein Information:

**Molecular Mass:** 19.2 kDa

**AP Molecular Mass:** 23 kDa

**Tag:**

**Bio-activity:**

**Purity:** > 95 % as determined by SDS-PAGE

**Endotoxin:** < 1.0 EU per µg as determined by LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Vascular endothelial growth factor A;Vascular permeability factor;VEGF;VEGF-A;VPF

## Immunogen Information:

**Sequence:** Ala27-Arg190

## Background:

Vascular endothelial growth factor (VEGF/VEGF-A ) is originally known as vascular permeability factor (VPF). It belongs to the PDGF family with a cysteine-knot structure comprised of eight conserved cysteine residues, and reckoned as a potent mediator in the process of angiogenesis and vasculogenesis in either fetus or adult. VEGF is particularly expressed in supraoptic , paraventricular nuclei and the choroid plexus of the pituitary, and abundant in the corpus luteum of the ovary and in kidney glomeruli. The rat VEGF protein contains a putative 20 amino acids (aa) signal peptide, and alternative splicing of rat VEGF gene produces isoforms of 120, 144, 164 and 188 aa. Rat VEGF164 respectively displays 97% and 88% aa identity with that regions of mouse and human VEGF. VEGF can bind to the FLT1/VEGFR1 and KDR/VEGFR2 receptors, heparan sulfate and heparin, and play important roles in inducing endothelial cell proliferation, promoting cell migration, inhibiting apoptosis and inducing permeabilization of blood vessels.