Recombinant Chicken VEGF-A

Catalog Number: GR104245

Background

Vascular endothelial growth factor (VEGF), also known as vascular permeability factor (VPF) or vasculotropin, is a homodimeric 34 - 42 kDa, heparin-binding glycoprotein with potent angiogenic, mitogenic and vascular permeability-enhancing activities specific for endothelial cells. VEGF is a sub-family of platelet-derived growth factor family of cystine-knot growth factors. The most important member is VEGF-A. Other members are Placenta growth factor (PlGF), VEGF-B, VEGF-C and VEGF-D. The amino acid sequence of VEGF exhibits primary structural, as well as limited amino acid sequence, homology with that of the A and B chains of PDGF. All eight cysteine residues involved in intra- and inter-chain disulfide bonds are conserved among these growth factors. Two receptor tyrosine kinases have been described as putative VEGF receptors. Flt-1 (fms-like tyrosine kinase), and KDR (kinase-insert-domain-containing receptor) proteins have been shown to bind VEGF with high affinity (1). VEGF acts directly on the endothelium and does not degranulate mast cells. It promotes extravasation of plasma fibrinogen, leading to fibrin deposition which alters the tumor extracellular matrix. The modified extracellular matrix subsequently promotes the migration of macrophages, fibroblasts and endothelial cells. VEGF plays important roles in inflammation and during normal and pathological angiogenesis, a process that is associated with wound healing, embryonic development, and growth and metastasis of solid tumors. Elevated levels of VEGF have been reported in synovial fluids of rheumatoid arthritis patients and in sera from cancer patients (2, 3).

References

1. Katherine H, et al. (2007). Cell Signal. 19 (10): 2003
2. Amo, Y, et al. (2004). Br J Dermato. 150 (1): 160
3. Bergers G, et al. (2008). Nat. Rev. Cancer 8 (8): 592

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Description

Source: E. coli derived
Ala26 –Arg216
Accession # NP_990373.1
N-terminal Sequence Analysis: Ala26
Structure/Form: Disulfide-linked homodimer
Predicted Molecular Mass: 21 kDa (monomer)

Specifications

SDS-PAGE: 19-22 kDa, reducing conditions
Activity Measured in a cell proliferation assay using HUVEC human umbilical vein endothelial cells. Conn, G. et al. (1990) Proc Natl Acad Sci USA 87:1323. The ED50 for this effect is typically 2-6 ng/mL.
Endotoxin Level: <1.0 EU per 1 μg of the protein by the LAL method.
Purity: >95%, by SDSPAGE under reducing conditions and visualized by silver stain.
Formulation: Lyophilized from a 0.2 μm filtered solution in Acetonitrile and TFA with BSA as a carrier protein.

Preparation and Storage

Reconstitution: Reconstitute at 10 μg/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.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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