

Recombinant Human VEGFA Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51046

Size: 10ug, 100ug

Protein Name: Vascular endothelial growth factor A, long form (L-VEGF) (Vascular permeability factor) (VPF) [Cleaved into: N-VEGF; VEGFA]

Synonym: VEGFA, VEGF

UniProt ID: P15692

UniProt Link: www.uniprot.org/uniprotkb/P15692/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 395 AA

Molecular Weight: 44 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTDRQTD TAPSPSYHLLPGRRTVDAAASRGQGPEPAPGGGVEGVGARGVALKLFVQLLGCSRFG
GAVVRAGEAEP SGAARSASSGREEPQPEEGEEEEKEEERGPQWRLGARKPGSWTGEAAVCADS
APAAPQALARASGRGGRVARRGAEESGPPHSPSRRGSASRAGPGRASETMNFLSWVHWSLA
LLLYLHHAKWSQAAPMAEGGGQNHHEVVKFMDVYQRSYCHPIETLVDIFQEYPDEIEYIFKPSCVPL
MRCGGCCNDEGLECVPTESNITMQIMRIKPHQGQHIGEMSFLQHNKCECRPKKDRARQEKKSVR
GKGKGQKRKRKKSRYKSWSVPCGPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCR
CDKPRR

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Vascular endothelial growth factor A, long form (L-VEGF) (Vascular permeability factor) (VPF) [Cleaved into: N-VEGF; VEGFA] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: [N-VEGF]: Participates in the induction of key genes involved in the response to hypoxia and in the induction of angiogenesis such as HIF1A (PubMed:35455969). Involved in protecting cells from hypoxia-mediated cell death (By similarity).; [VEGFA]: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth (PubMed:34530889). 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. Binds to the NRP1/neuropilin-1 receptor. Binding to NRP1 initiates a signaling pathway needed for motor neuron axon guidance and cell body migration, including for the caudal migration of facial motor neurons from rhombomere 4 to rhombomere 6 during embryonic development (By similarity). Also binds the DEAR/FBXW7-AS1 receptor (PubMed:17446437).; [Isoform VEGF165B]: Binds to the KDR receptor but does not activate downstream signaling pathways, does not activate angiogenesis and inhibits tumor growth.

Subcellular Localization: [N-VEGF]: Cytoplasm . Nucleus . Note=Cytoplasmic in normoxic conditions and localizes to the nucleus under hypoxic conditions.; [VEGFA]: Secreted .; [Isoform L-VEGF189]: Endoplasmic reticulum . Golgi apparatus . Secreted, extracellular space, extracellular matrix .; [Isoform VEGF121]: Secreted .; [Isoform VEGF165]: Secreted .; [Isoform VEGF189]: Secreted. Note=Cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.