

Recombinant Mouse VEGFA Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51539

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: Q00731

UniProt Link: www.uniprot.org/uniprotkb/Q00731/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 392 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTDRQTD TAPSPSAHLLAGGLPTVDAAASREEPKPAPGGGVEGVGARGIARKL FVQLLGSSRSVVA
VVCAAGDKPIGAGRSASSGLEKPGPEKRGEEEEEKEEERGPQWALGSQEPSSWTGEAAVCADSAPA
ARAPQAPARASVPEGRGARQGAQESGLPRSPSRSGSASRAGPGRASETMNFLLSVHWT LALLL
YLHHAKWSQAAPTTEGEQKSHEVIKFMDVYQRSYCRPIETLVDIFQEYPDEIEYIFKPSCVPLMRCAG
CCNDEALECVPTSESNITMQIMRIKPHQSQHIGEMSFLQHSRCECRPKKDRTKPEKKSVRGKGKGQ
KRKRKKS RFKSWSVHCEPCSE R R KHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR

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 (PubMed:35455969).; [VEGFA]: 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. Binds to the NRP1/neuropilin-1 receptor. Binding to NRP1 receptor 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 (PubMed:26503042). Also binds the DEAR/FBXW7-AS1 receptor (PubMed:16293765). May play a role in increasing vascular permeability during lactation, when increased transport of molecules from the blood is required for efficient milk protein synthesis (By similarity).

Subcellular Localization: [N-VEGF]: Cytoplasm . Nucleus . Note=Cytoplasmic in normoxic conditions and localizes to the nucleus under hypoxic conditions.; [VEGFA]: Secreted .; [Isoform L-VEGF-2]: Endoplasmic reticulum . Golgi apparatus . Secreted, extracellular space, extracellular matrix .; [Isoform VEGF-1]: Secreted.; [Isoform VEGF-2]: Secreted.; [Isoform VEGF-3]: Cell membrane; Peripheral membrane protein. Note=Remains cell-surface associated unless released by heparin.

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.