

Recombinant Human NRP1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50740

Size: 10ug, 100ug

Protein Name: Neuropilin-1 (Vascular endothelial cell growth factor 165 receptor) (CD antigen CD304)

Synonym: NRP1, NRP, VEGF165R

UniProt ID: O14786

UniProt Link: www.uniprot.org/uniprotkb/O14786/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 923 AA

Molecular Weight: 103 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MERGLPLLC AVLALVLAPAGAFRNDKCGDTIKIESPGYLTSPGYPHSYHPSEKCEWLIQAPDPYQRIM
INFNPHFDLED RDCKYDYVEVFDGENENGHFRGKFCGKIAPPPVSSGPFLFIKFVSDYETHGAGFSI
RYEIFKRGPECSQNYTTTPSGVIKSPGFPEKYPNSLECTYIVFVKMSEIILEFESFDLEPDSNPPGGMF
CRYDRLEIWDGFPDVGPHIGRYCGQKTPGRIRSSSGILSMVFYTDSAIAKEGFSANYSVLQSSVSED
FKCMEALGMESGEIHSDQITASSQYSTNWSAERSRLNYPENGWTPGEDSYREWIQVDLGLLRFVTA
VGTQGAISKETKKKYYVKTYKIDVSSNGEDWITIKENKPVLFQGNTNPTD VVVAVFPKPLITRFVRIK
PATWETGISMRFEVYGCKITDYPSCGMLGMVSGLISDSQITSSNQGDRNWMPENIRLVTSRSGWAL
PPAPHSYINEWLQIDL GEEKIVRGIIQGGKHRENKVFMRKFKIGYSNNGSDWKMMIMDDSKRKAKSFE
GNNNYDTPELRTFPALSTRFIRIYPERATHGGLGLRMELLGCEVEAPTAGPTTPNGNLVDECDDDQA
NCHSGTGDDFQLTGTTVLATEKPTVIDSTIQSEFPTYGFNCEFGWGSHTKFCHWEHDNHVQLKW
SVLTSKTGPIQDHTGDGNFIYSQADENQKGKVARLVSPVVYSQNSAHCMTFWYHMSGSHVGTLRV
KLRYQKPEEYDQLVWMAIGHQGDHWKEGRVLLHKSLKLYQVIFEGEIGKGNLGGIAVDDISINNHISQ
EDCAKPADLDKKNPEIKIDETGSTPGYEGEGEGDKNISRKPGNVLKTLDPILITIIAMSALGVLLGAVCG
VVLYCACWHNGMSERNLSALENYNFELVDGVKLKKDKLNTQSTYSEA

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 Neuropilin-1 (Vascular endothelial cell growth factor 165 receptor) (CD antigen CD304) 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: Cell-surface receptor involved in the development of the cardiovascular system, in angiogenesis, in the formation of certain neuronal circuits and in organogenesis outside the nervous system. Mediates the chemorepulsant activity of semaphorins (PubMed:10688880, PubMed:9288753, PubMed:9529250). Recognizes a C-end rule (CendR) motif R/KXXR/K on its ligands which causes cellular internalization and vascular leakage (PubMed:19805273). It binds to semaphorin 3A, the PLGF-2 isoform of PGF, the VEGF165 isoform of VEGFA and VEGFB (PubMed:10688880, PubMed:19805273, PubMed:9288753, PubMed:9529250). Coexpression with KDR results in increased VEGF165 binding to KDR as well as increased chemotaxis. Regulates VEGF-induced angiogenesis. Binding to VEGFA 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). Regulates mitochondrial iron transport via interaction with ABCB8/MITOSUR (PubMed:30623799).; (Microbial infection) Acts as a host factor for human coronavirus SARS-CoV-2 infection. Recognizes and binds to CendR motif RRAR on SARS-CoV-2 spike protein S1 which enhances SARS-CoV-2 infection.; [Isoform 2]: Binds VEGF-165 and may inhibit its binding to cells (PubMed:10748121, PubMed:26503042). May induce apoptosis by sequestering VEGF-165 (PubMed:10748121). May bind as well various members of the semaphorin family. Its expression has an averse effect on blood vessel number and integrity.

Subcellular Localization: [Isoform 2]: Secreted .; Mitochondrion membrane ; Single-pass type I membrane protein . Cell membrane ; Single-pass type I membrane protein . Cytoplasm .; Secreted . Note=(Microbial infection) Proteolytically cleaved at the cell membrane upon H.pylori infection.

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.