Recombinant Human Neuropilin-1/NRP1 Protein (His Tag)

Catalog Number:PKSH031932

Note: Centrifuge before opening to ensure complete recovery of vial contents.

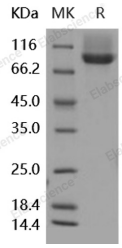
Description

Synonyms	BDCA4;CD304;Neuropilin-1;NP1;NRP;VEGF165R
Species	Human
Expression Host	HEK293 Cells
Sequence	Met 1-Lys 644
Accession	NP_001019799.1
Calculated Molecular Weight	71.3 kDa
Observed molecular weight	88 kDa
Tag	C-His
Bioactivity	Using the Octet RED System, the affinity constant (Kd) of NRP1-his bound to biotinylated human VEGF165 was 25nM.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 95 % as determined by reducing SDS-PAGE.

Background

Neuropilin is a type I transmembrane protein and the molecular mass is 120 kDa. Two homologues, Neuropilin-1 and Neuropilin-2, are identified. The primary structure of Neuropilin-1 and Neuropilin-2 is well conserved and is divided into four domains, CUB (a1/a2) domain, FV/FVIII (b1/b2) domain, MAM (c) domain, and (d) domain that contains a transmembrane and a short cytoplasmic region. Neuropilin-1 (NRP1) acts as a receptor for two different extracellular ligands, class 3 semaphorins and specific isoforms of vascular endothelial growth factor. The functions of NRP1 and NRP2 have been extensively studied in neurons where they act in axon guidance and in endothelial cells where they

promote angiogenesis and cell migration. Neuropilin-1 is likely to mediate contacts between the dendritic cells and the T lymphocytes via homotypic interactions and is essential for the initiation of the primary immune response. NRP1 is a co-receptor for VEGF receptor-2 (VEGFR2) that enhances the binding of VEGF165 to VEGFR2 and VEGF165-mediated chemotaxis. NRP1 expression is regulated in EC by tumor necrosis factor-alpha, the transcription factors dHAND and Ets-1, and vascular injury. NRP1 upregulation is positively correlated with the progression of various tumors. Overexpression of NRPI in rat tumor cells results in enlarged tumors and substantially enhanced tumor angiogenesis. On the other hand, soluble NRP1 (sNRP1) is an antagonist of tumor angiogenesis.

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