

Recombinant Mouse Neuropilin-1/NRP1/VEGF165R/CD304 Protein

Catalog No.: RP01869 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Mouse	18186	P97333

Tags

C-His

Synonyms

BDCA4; BDCA-4; CD304 antigen; CD304; DKFZp686A03134; DKFZp781F1414; neuropilin 1; Neuropilin1; Neuropilin-1; NP1; NRP; NRP1; transmembrane receptor; Vascular endothelial cell growth factor 165 receptor; VEGF165R

Product Information

Source	Purification
HEK293 cells	

Calculated MW	Observed MW
94.51 kDa	120-140 kDa

Endotoxin

<0.001EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

Neuropilin-1 (Npn-1, previously neuropilin; also CD304 or BDCA4 in humans) is a 130-140 kDa type I transmembrane (TM) glycoprotein that regulates axon guidance and angiogenesis. The full-length 923 amino acid (aa) mouse Npn-1 contains a 623 aa extracellular domain (ECD) that shares 98% aa identity with rat and 93% aa identity with human, equine, bovine and canine Npn-1. The ECD contains two N-terminal CUB domains (termed a1a2), two domains with homology to coagulation factors V and VIII (b1b2) and a MAM (meprin) domain (c). At least one splice variant that diverges at aa 587 and lacks the TM domain has been sequenced. This form is potentially a soluble antagonist, based on results from human Npn-1 splice variants. The sema domains of Class III secreted semaphorins such as Semaphorin 3A bind Npn-1 a1a2. Heparin, the heparin-binding forms of VEGF (VEGF165, VEGF-B and VEGF-E), PIGF (PIGF2), and the C-terminus of Semaphorin 3 bind the b1b2 region. Npn-1 and Npn-2 share 48% aa identity within the ECD and can form homo- and hetero-oligomers via interaction of their MAM domains. Neuropilins show partially overlapping expression in neuronal and endothelial cells during development. Both Neuropilins act as co-receptors with plexins, mainly plexin A3 and A4, to bind class III semaphorins that mediate axon repulsion. However, only Npn-1 binds Semaphorin 3A, and only Npn-2 binds Semaphorin 3F. Both are co-receptors with VEGF R2 (also called KDR or Flk-1) for VEGF165 binding. Semaphorin 3A signaling can be blocked by VEGF165, which has higher affinity for Npn-1. Npn-1 is preferentially expressed in developing or remodeling arteries. Npn-1 is also expressed on dendritic cells and mediates DC-induced T cell proliferation.

Basic Information

Description

Recombinant Mouse Neuropilin-1/NRP1/VEGF165R/CD304 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Phe22-Pro856) of Mouse Neuropilin-1/NRP1/VEGF165R/CD304 (Accession #NP_032763.2) fused with a His tag at the C-terminus.

Bio-Activity

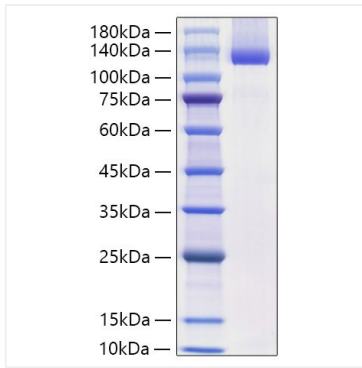
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80°C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Mouse
Neuropilin-1/NRP1/VEGF165R/CD304 Protein
was determined by SDS-PAGE with
Coomassie Blue, showing a band at 120-140
kDa.