



Recombinant Protein Technical Manual

Recombinant Human Neuropilin/NRP1 Protein (His Tag)(Active)

RPES0680

Product Data:

Product SKU: RPES0680

Size: 20µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_001019799.1

Protein Information:

Molecular Mass: 71.3 kDa

AP Molecular Mass: 88 kDa

Tag: C-His

Bio-activity: Using the Octet RED System, the affinity constant (Kd) of NRP1-his bound to biotinylated human VEGF165 was 25nM.

Purity: > 95 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C 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

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: BDCA4;CD304;Neuropilin;NP1;NRP;VEGF165R

Immunogen Information:

Sequence: Met 1-Lys 644

Background:

Neuropilin is a type I transmembrane protein and the molecular mass is 120 kDa. Two homologues, Neuropilin and Neuropilin-2, are identified. The primary structure of Neuropilin 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 (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 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- α , the transcription factors dHAND and Ets, 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.