**DESCRIPTION**

**Species Reactivity**

**Specificity**

Dectes rat Neuropilin-1 extracellular domain in Western blots. In this format, less than 1% cross-reactivity with recombinant rat Neuropilin-2 is observed.

**Source**

Polyclonal Goat IgG

**Purification**

Antigen Affinity-purified

**Immunogen**

Mouse myeloma cell line NS0-derived recombinant rat Neuropilin-1 Phe22-Ala810.Arg.Ser829-Asp854

Accession # Q9QWJ9

**Formulation**

Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**APPLICATIONS**

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

**Recommended**

**Concentration**

**Sample**

**Western Blot**

0.1 μg/mL Recombinant Rat Neuropilin-1/BDCA4 Fc Chimera (Catalog # 566-N1)

**PREPARATION AND STORAGE**

**Reconstitution**

Reconstitute at 0.2 mg/mL in sterile PBS.

**Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

Neuropilin-1 (Npn-1, previously neuropilin; also CD304) is a 130 - 140 kDa type I transmembrane (TM) glycoprotein that regulates axon guidance and angiogenesis (1-4). The mature 901 amino acid (aa) rat Npn-1 contains a 623 aa extracellular domain (ECD) that shares 98% aa identity with mouse and 93% aa identity with human, equine, bovine and canine Npn-1 (3, 4). The ECD contains two N-terminal CUB domains, two F5/8 type C domains with homology to coagulation factors V and VIII and a MAM (meprin) domain. In mouse and human, splice variants that lack the TM domain have been described and are either proven or presumed to be soluble antagonists (1, 5-7). The sema domains of Class III secreted semaphorins such as Sema3A bind Npn-1 CUB domains (8). The heparin-binding forms of VEGF (VEGF_{165}, VEGF-B and VEGF-E), PGF (PGF2), and the C-terminus of Sema3 bind the F5/8 type C domains (8, 9). 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 (1). Neuropilins show partially overlapping expression in neuronal and endothelial cells during development (1, 2). Both neuropilins act as co-receptors with plexins, mainly plexin A3 and A4, to bind class III semaphorins that mediate axon repulsion (10). However, only Npn-1 binds Sema3A, and only Npn-2 binds Sema3F (1). Both are co-receptors with VEGF R2 (also called KDR or Flk-1) for VEGF_{165} binding (1). Sema3A signaling can be blocked by VEGF_{165}, which has higher affinity for Npn-1 (11). Npn-1 is preferentially expressed in developing or remodeling arteries (1, 2). Npn-1 is also expressed on dendritic cells and mediates DC-induced T cell proliferation (12).

**REFERENCES**


**PRODUCT SPECIFIC NOTICES**

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