

## DESCRIPTION

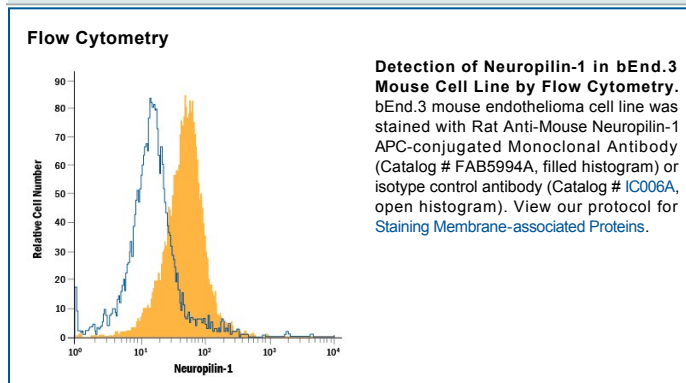
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse Neuropilin-1 in direct ELISAs. In direct ELISAs, less than 5% cross-reactivity with recombinant rat (rr) Neuropilin-1 is observed and no cross-reactivity with recombinant human (rh) Neuropilin-1, rhNeuropilin-2, or rrNeuropilin-2 is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 761705
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse Neuropilin-1 Phe21-Pro856 Accession # P97333
<b>Conjugate</b>	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

Neuropilin-1 (Nrp-1), also known as CD304, is a 130-140 kDa type I transmembrane (TM) glycoprotein that regulates axon guidance and angiogenesis (1-4). The full-length 923 amino acid (aa) mouse Nrp-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 Nrp-1 (3, 4). 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 (5). This form is potentially a soluble antagonist, based on results from human Nrp-1 splice variants (1, 6-8). The sema domains of Class III secreted semaphorins such as Sema3A bind Nrp-1 a1a2 (9). Heparin, the heparin-binding forms of VEGF (VEGF<sub>165</sub>, VEGF-B and VEGF-E), PlGF (PlGF2), and the C-terminus of Sema3 bind the b1b2 region (9, 10). Nrp-1 and Nrp-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 (11). However, only Nrp-1 binds Sema3A, and only Nrp-2 binds Sema3F (1). Both are co-receptors with VEGF R2 (also called KDR or Flk-1) for VEGF<sub>165</sub> binding (1). Sema3A signaling can be blocked by VEGF<sub>165</sub>, which has higher affinity for Nrp-1 (12). Nrp-1 is preferentially expressed in developing or remodeling arteries (1, 2). Nrp-1 is also expressed on dendritic cells and mediates DC-induced T cell proliferation (13).

## References:

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