**DESCRIPTION**

**Species Reactivity**
Mouse

**Specificity**
Detects mouse Neuropilin-1 in ELISAs.

**Source**
Monoclonal Rat IgG2A Clone # 761704

**Purification**
Protein A or G purified from hybridoma culture supernatant

**Immunogen**
Mouse myeloma cell line NS0-derived recombinant mouse Neuropilin-1 Phe21-Pro856
Accession # P97333

**Formulation**
Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.
*Small pack size (SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

**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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Flow Cytometry</td>
<td>2.5 μg/10⁶ cells</td>
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<tr>
<td>CyTOF-ready</td>
<td>Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.</td>
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</table>

**Neutralization**

**DATA**

**Flow Cytometry**
Detection of Neuropilin-1 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Rat Anti-Mouse CD4 APC-conjugated Monoclonal Antibody (Catalog # FAB554A) and either (A) Rat Anti-Mouse Neuropilin-1 Monoclonal Antibody (Catalog # MAB59941) or (B) Rat IgG2A Isotype Control (Catalog # MAB006) followed by Phycoerythrin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0105B).

**PREPARATION AND STORAGE**

**Reconstitution**
Sterile PBS to a final concentration of 0.5 mg/mL.

**Shipping**
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
*Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C.

**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.
Neuropilin-1 (Nrp-1, previously neuropilin; also 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 (VEGF165, VEGF-B and VEGF-E), PIGF (PIGF2), 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 VEGF165 binding (1). Sema3A signaling can be blocked by VEGF165, which has higher affinity for Npn-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:
5. Entrez accession #EDL11827