**DESCRIPTION**

**Species Reactivity**  
Mouse

**Specificity**  
Detects mouse Neuropilin-1 in direct 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

**Conjugate**  
Alexa Fluor 488

**Excitation Wavelength:** 488 nm  
**Emission Wavelength:** 515-545 nm

**Formulation**  
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.

**Recommended Concentration**  
Sample

**Flow Cytometry**  
0.5 µg/10⁶ cells  
See Below

**DATA**

**Flow Cytometry**  
Detection of Neuropilin-1 in Mouse CD4⁺ Splenocytes by Flow Cytometry. Mouse CD4⁺ splenocytes were stained with Rabbit Anti-Human/Mouse FoxP3 Alexa Fluor® 647-conjugated Monoclonal Antibody (Catalog # IC8214R) and either (A) Rat Anti-Mouse Neuropilin-1 Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # FAB59941G) or (B) Rat IgG₂A Alexa Fluor 488 Isotype Control (Catalog # IC006G). View our protocol for Staining Membrane-associated Proteins.

**PREPARATION AND STORAGE**

**Shipping**  
The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**  
Protect from light. Do not freeze.  
● 12 months from date of receipt, 2 to 8 °C as supplied.

**BACKGROUND**

Neuropilin-1 (Nrp-1, previously Neuropilin; also CD304) is a 130-140 kDa type I transmembrane (TM) glycoprotein that regulates axon guidance and angiogenesis. The full-length 923 amino acid (aa) mouse Nrp-1 contains a 835 aa extracellular domain (ECD) that shares 98% aa identity with rat and 93% aa identity with human, equine, bovine and canine Nrp-1. The ECD contains two N-terminal CUB domains (termed α1α2), two domains with homology to coagulation factors V and VIII (β1β2) and a MAM (meprin) domain (c). The sema domains of Class III secreted semaphorins such as Sema3A bind Nrp-1 α1α2. Heparin, the heparin-binding forms of VEGF (VEGF₁₆₅, VEGF-B and VEGF-E), PIGF (PGF₂), and the C-terminus of Sema3 bind the β1β2 region. 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. Neuropilins show partially overlapping expression in neuronal and endothelial cells during development. Both neuropilins act as co-receptors with multiple molecules, which for Nrp-1 includes Sema3A through Sema3F, Plexin A1 through A4, Plexin B1 and D1. It also interacts with Robo1 and as noted, Nrp-2, as a heterodimer, which binds Sema3C. Finally, it has recently been found to bind miRNA that are complexed to AGO2 in the extracellular space. Both are co-receptors with VEGF R2 (also called KDR or Flk-1) for VEGF₁₆₅ binding. Sema3A signaling can be blocked by VEGF₁₆₅, which has higher affinity for Npn-1. Nrp-1 is preferentially expressed in developing or remodeling arteries. Nrp-1 is also expressed on multiple cell types, including keratinocytes, Nrp-1⁺ T cells, Schwann cells, macrophages, vascular and lymphatic endothelium, breast duct epithelium, hepatic stellate cells, and neural crest cells that give rise to both sensory and autonomic ganglia.
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