# Mouse Neuropilin-1
# Alexa Fluor® 594-conjugated Antibody

Monoclonal Rat $IgG_{2A}$ Clone # 761705

Catalog Number: FAB5994T

100 µg

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Mouse |
| **Specificity** | 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. |
| **Source** | Monoclonal Rat $IgG_{2A}$ Clone # 761705 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | Mouse myeloma cell line NS0-derived recombinant mouse Neuropilin-1<br>Phe21-Pro856<br>Accession # P97333 |
| **Conjugate** | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm |
| **Formulation** | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*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** | 0.25-1 µg/$10^6$ cells | bEnd.3 mouse endothelioma cell line |

## PREPARATION AND STORAGE

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|---|---|
| **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.**<br>● 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 (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 ($VEGF_{165}$, VEGF-B and VEGF-E), P*l*GF (P*l*GF2), 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 $VEGF_{165}$ binding (1). Sema3A signaling can be blocked by $VEGF_{165}$, 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:**


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