Mouse Neuropilin-1
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 761705

Catalog Number: FAB5994G
100 TESTS

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 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.

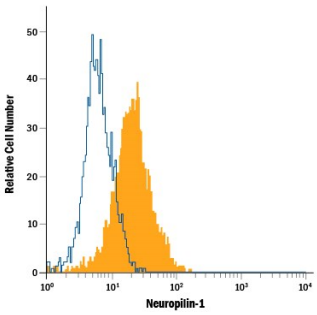
APPLICATIONS

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	5 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of Neuropilin-1 in bEnd.3 Mouse Cell Line by Flow Cytometry. bEnd.3 mouse endothelioma cell line was stained with Rat Anti-Mouse Neuropilin-1 Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # FAB5994G, filled histogram) or isotype control antibody (Catalog # IC006G, open histogram). 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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Mouse Neuropilin-1
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 761705

Catalog Number: FAB5994G
100 TESTS

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 ($VEGF_{165}$, 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 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:

1. Bielenberg, D.R. *et al.* (2006) Exp. Cell Res. **312**:584.
2. Gu, C. *et al.* (2003) Dev. Cell **5**:45.
3. He, Z. and M. Tessier-Lavigne (1997) Cell **90**:739.
4. Soker, S. *et al.* (1998) Cell **92**:735.
5. Entrez accession #EDL11827
6. Gagnon, M.L. *et al.* (2000) Proc. Natl. Acad. Sci. USA **97**:2573.
7. Cackowski, F.C. *et al.* (2004) Genomics **84**:82.
8. Rossignol, M. *et al.* (2000) Genomics **70**:211.
9. Gu, C. *et al.* (2002) J. Biol. Chem. **277**:18069.
10. Mamluk, R. *et al.* (2002) J. Biol. Chem. **277**:24818.
11. Yaron, A. *et al.* (2005) Neuron **45**:513.
12. Narazaki, M. and G. Tosato (2006) Blood **107**:3892.
13. Tordjman, R. *et al.* (2002) Nat. Immunol. **3**477.

PRODUCT SPECIFIC NOTICES

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956