Rat Neuropilin-1
Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 130604

Catalog Number: FAB5661N

100 µg

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat Neuropilin-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant rat Neuropilin-2 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 130604
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Neuropilin-1 Met1-Asp854 (Lys811Arg, Pro812-Gly828 del), predicted Accession # Q9QWJ9
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2 mg/mL 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	0.25-1 µg/10^6 cells	No Sample Info

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 (Npn-1, previously neuropilin; also CD304) is a 130-140 kDa type I transmembrane (TM) glycoprotein that regulates axon guidance and angiogenesis (1-4). The mature 901 amino acid (aa) rat Npn-1 contains a 623 aa extracellular domain (ECD) that shares 98% aa identity with mouse and 93% aa identity with human, equine, bovine and canine Npn-1 (3, 4). The ECD contains two N-terminal CUB domains, two F5/8 type C domains with homology to coagulation factors V and VIII and a MAM (meprin) domain. In mouse and human, splice variants that lack the TM domain have been described and are either proven or presumed to be soluble antagonists (1, 5-7). The sema domains of Class III secreted semaphorins such as Sema3A bind Npn-1 CUB domains (8). The heparin-binding forms of VEGF ($VEGF_{165}$, VEGF-B and VEGF-E), PlGF (PlGF2), and the C-terminus of Sema3 bind the F5/8 type C domains (8, 9). Npn-1 and Npn-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 (10). However, only Npn-1 binds Sema3A, and only Npn-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 (11). Npn-1 is preferentially expressed in developing or remodeling arteries (1, 2). Npn-1 is also expressed on dendritic cells and mediates DC-induced T cell proliferation (12).

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. Gagnon, M.L. *et al.* (2000) Proc. Natl. Acad. Sci. USA **97**:2573.
6. Cackowski, F.C. *et al.* (2004) Genomics **84**:82.
7. Rossignol, M. *et al.* (2000) Genomics **70**:211.
8. Gu, C. *et al.* (2002) J. Biol. Chem. **277**:18069.
9. Mamluk, R. *et al.* (2002) J. Biol. Chem. **277**:24818.
10. Yaron, A. *et al.* (2005) Neuron **45**:513.
11. Narazaki, M. and G. Tosato (2006) Blood **107**:3892.
12. Tordjman, R. *et al.* (2002) Nat. Immunol. **3**:477.

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