Human/Mouse/Rat Neuropilin-2 Antibody

Monoclonal Mouse IgG_{2B} Clone # 96009

Catalog Number: MAB567

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects rat Neuropilin-2 in direct ELISAs and detects human, mouse, and rat Neuropilin-2 in Western blots. In direct ELISAs and Western blots, this antibody does not cross-react with recombinant human Neuropilin-1.
Source	Monoclonal Mouse IgG_{2B} Clone # 96009
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Neuropilin-2 Gln23-Asp857 (Val809-Asp825 del) Accession # O35276
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.

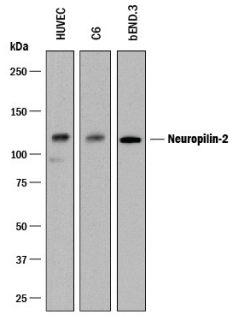
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Flow Cytometry	0.25 µg/10^6 cells	See Below
Simple Western	10 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

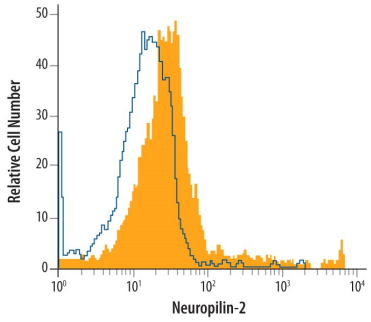
DATA

Western Blot



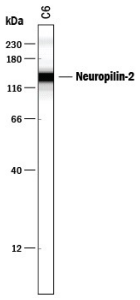
Detection of Human, Mouse, and Rat Neuropilin-2 by Western Blot. Western blot shows lysates of HUVEC human umbilical vein endothelial cells, C6 rat glioma cell line, bEnd.3 mouse endothelioma cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human/Mouse/Rat Neuropilin-2 Monoclonal Antibody (Catalog # MAB567) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Neuropilin-2 at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of Neuropilin-2 in Rat Cortical Stem Cells by Flow Cytometry. Rat cortical stem cells were stained with Mouse Anti-Human/Mouse/Rat Neuropilin-2 Monoclonal Antibody (Catalog # MAB567, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B).

Simple Western



Detection of Rat Neuropilin-2 by Simple Western™. Simple Western lane view shows lysates of C6 rat glioma cell line, loaded at 0.2 mg/mL. A specific band was detected for Neuropilin-2 at approximately 139 kDa (as indicated) using 10 µg/mL of Mouse Anti-Human/Mouse/Rat Neuropilin-2 Monoclonal Antibody (Catalog # MAB567) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.

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BACKGROUND

Neuropilin-1 (Npn-1, previously known as neuropilin) and Npn-2 (previously known as Npn-1-related molecule) are type I transmembrane proteins that bind members of the class III secreted semaphorin subfamily which are implicated in repulsive axon guidance. The extracellular domain of these proteins is composed of two N-terminal CUB (complement-binding) domains (domains a1 and a2), two domains with homology to coagulation factors V and VIII (domains b1 and b2) and a MAM (meprin) domain (domain c). In the absence of ligands, neuropilins can form homo- and hetero-oligomers via homophilic interactions of their MAM domains. At the amino acid sequence level, Npn-1and Npn-2 share 44% identity. Npn-1 and Npn-2 show different binding specificities for different members of the semaphorin family. The expression patterns of Npn-1 and Npn-2 in developing neurons of the central and peripheral nervous systems are largely, though not completely non-overlapping. Npn-1 and Npn-2 are also expressed by endothelial and tumor cells and have been shown to be isoform-specific receptors for $VEGF_{165}$. Npn-1 was also reported to bind PlGF-2 and the VEGF-like protein from of virus NZ2.

References:

1. Fujisawa, H. and T. Kitsukawa (1998) Curr. Opin. Neurobiol. **8**:587.
2. Neufeld, G. *et al.* (1999) FASEB J. **13**:9.
3. Poltorak, Z. *et al.* (2000) J. Biol. Chem. **275**:18040.

PRODUCT SPECIFIC NOTICES

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U.S. Patent # 6,054,293, 6,623,738, and other U.S. and international patents pending.

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