



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at -20C
#3725

Neuropilin-1 (D62C6) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 120-140	Source/Isotype: Rabbit IgG	UniProt ID: #O14786	Entrez-Gene Id: 8829
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Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Neuropilin-1 (D39A5) Rabbit mAb detects endogenous levels of total neuropilin-1 protein. This antibody also recognizes an 80 kDa protein of unknown origin.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a GST-fusion protein corresponding to residues of mouse neuropilin-1.

Background

Class 3 secreted semaphorin (Sema3A) is a chemorepellent that acts upon a wide variety of axons. As such, it induces a dramatic redistribution and depolymerization of actin filaments that results in growth cone collapse. Plexins are single-pass, transmembrane signaling proteins encompassing Plexin A1, A2, A3, and A4. Plexins form a complex with neuropilin-1 and -2 and the cell adhesion protein L1 to form a functional semaphorin receptor (1,2). The GTPase Rnd1 binds to the cytoplasmic domain of Plexin A1 to trigger cytoskeletal collapse. In contrast, the GTPase RhoD blocks Rnd1-mediated Plexin A1 activation and repulsion of sympathetic axons by Sema3A (3).

Neuropilin-1, a single-pass transmembrane glycoprotein, was originally identified as a semaphorin receptor mediating axon growth cone collapse. In addition, neuropilin-1 is involved in axonal fasciculation, neuronal migration, dendritic guidance and repair of the adult nervous system (4). Neuropilin-1 is also an isoform-specific VEGF receptor on tumor and endothelial cells. Loss of neuropilin-1 function causes vascular remodeling and branching defects, which is compounded by additional loss of neuropilin-2 function (4, 5).

Background References

1. Pasterkamp, R.J. and Kolodkin, A.L. (2003) *Curr Opin Neurobiol* 13, 79-89.
2. Takahashi, T. and Strittmatter, S.M. (2001) *Neuron* 29, 429-39.
3. Zanata, S.M. et al. (2002) *J Neurosci* 22, 471-7.
4. He, Z. et al. (2002) *Sci STKE* 2002, RE1.
5. Kawasaki, T. et al. (1999) *Development* 126, 4895-902.
6. Takashima, S. et al. (2002) *Proc Natl Acad Sci USA* 99, 3657-62.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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