

neuropilin (A-12): sc-5307



The Power to Question

BACKGROUND

neuropilin is a type I transmembrane receptor that has been implicated in aspects of axon growth and guidance and has been shown to act as a high affinity receptor for class III semaphorins and vascular endothelial growth factor (VEGF). A closely related protein, neuropilin-2, shares a common domain structure and significant homology with neuropilin and also acts as a receptor for the class III semaphorins and VEGF. Both neuropilins are involved in regulating many physiological pathways including axonal guidance and angiogenesis, however they exhibit differential expression in the adult vasculature. Neuropilin-2 is polysialylated and expressed on the surface of dendritic cells. It is also expressed by venous and lymphatic endothelium. Neuropilin is expressed predominantly by arterial endothelium.

CHROMOSOMAL LOCATION

Genetic locus: NRP1 (human) mapping to 10p11.22; Nrp1 (mouse) mapping to 8 E2.

SOURCE

neuropilin (A-12) is a mouse monoclonal antibody raised against amino acids 570-855 of neuropilin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

neuropilin (A-12) is available conjugated to agarose (sc-5307 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5307 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5307 PE), fluorescein (sc-5307 FITC), Alexa Fluor® 488 (sc-5307 AF488), Alexa Fluor® 546 (sc-5307 AF546), Alexa Fluor® 594 (sc-5307 AF594) or Alexa Fluor® 647 (sc-5307 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5307 AF680) or Alexa Fluor® 790 (sc-5307 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

neuropilin (A-12) is recommended for detection of neuropilin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for neuropilin siRNA (h): sc-36038, neuropilin siRNA (m): sc-36039, neuropilin shRNA Plasmid (h): sc-36038-SH, neuropilin shRNA Plasmid (m): sc-36039-SH, neuropilin shRNA (h) Lentiviral Particles: sc-36038-V and neuropilin shRNA (m) Lentiviral Particles: sc-36039-V.

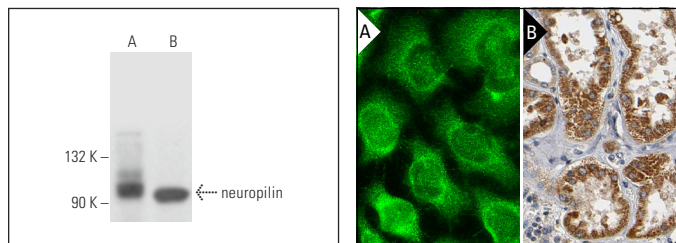
Molecular Weight of neuropilin: 130 kDa.

Positive Controls: mouse brain extract: sc-2253, rat testis extract: sc-2400 or HUV-EC-C whole cell lysate: sc-364180.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



neuropilin (A-12): sc-5307. Western blot analysis of neuropilin expression in mouse brain (A) and rat testis (B) tissue extracts.

neuropilin (A-12): sc-5307. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in tubuli. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Rieger, J., et al. 2003. Human malignant glioma cells express semaphorins and their receptors, neuropilins and plexins. *Glia* 42: 379-389.
- Akashi, Y., et al. 2014. Anticancer effects of gemcitabine are enhanced by co-administered iRGD peptide in murine pancreatic cancer models that overexpressed neuropilin-1. *Br. J. Cancer* 110: 1481-1487.
- Lu, J., et al. 2015. Increased expression of neuropilin 1 in melanoma progression and its prognostic significance in patients with melanoma. *Mol. Med. Rep.* 12: 2668-2676.
- Aung, N.Y., et al. 2016. Specific neuropilins expression in alveolar macrophages among tissue-specific macrophages. *PLoS ONE* 11: e0147358.
- Sun, J., et al. 2017. Inflammatory milieu cultivated Sema3A signaling promotes chondrocyte apoptosis in knee osteoarthritis. *J. Cell. Biochem.* 119: 2891-2899.
- Ruvolo, P.P., et al. 2018. Role of MSC-derived galectin 3 in the AML microenvironment. *Biochim. Biophys. Acta* 1865: 959-969.
- Ding, Z., et al. 2019. The regulation of Neuropilin 1 expression by miR-338-3p promotes non-small cell lung cancer via changes in EGFR signaling. *Mol. Carcinog.* 58: 1019-1032.
- Ding, Z., et al. 2020. Neuropilin 1 modulates TGF-β1-induced epithelial-mesenchymal transition in non-small cell lung cancer. *Int. J. Oncol.* 56: 531-543.
- Moutal, A., et al. 2021. SARS-CoV-2 spike protein co-opts VEGF-A/neuropilin-1 receptor signaling to induce analgesia. *Pain* 162: 243-252.

RESEARCH USE

For research use only, not for use in diagnostic procedures.