neuropilin-2 (C-9): sc-13117

SANTA CRUZ®
BIOTECHNOLOGY
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 signifcant 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: NRP2 (human) mapping to 2q33.3; Nrp2 (mouse) mapping to 1 C2.

SOURCE

neuropilin-2 (C-9) is a mouse monoclonal antibody raised against amino acids 560-858 of neuropilin-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

neuropilin-2 (C-9) is available conjugated to agarose (sc-13117 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-13117 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13117 PE), fluorescein (sc-13117 FITC), Alexa Fluor® 488 (sc-13117 AF488), Alexa Fluor® 546 (sc-13117 AF546), Alexa Fluor® 594 (sc-13117 AF594) or Alexa Fluor® 647 (sc-13117 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13117 AF680) or Alexa Fluor® 790 (sc-13117 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-2 (C-9) is recommended for detection of neuropilin-2 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-2 siRNA (h): sc-36040, neuropilin-2 siRNA (m): sc-36041, neuropilin-2 shRNA Plasmid (h): sc-36040-SH, neuropilin-2 shRNA Plasmid (m): sc-36041-SH, neuropilin-2 shRNA (h) Lentiviral Particles: sc-36040-V and neuropilin-2 shRNA (m) Lentiviral Particles: sc-36041-V.
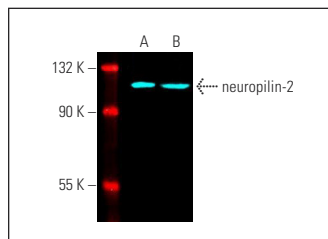
Molecular Weight of neuropilin-2: 116 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or SK-N-SH cell lysate: sc-2410.

STORAGE

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

DATA

neuropilin-2 (C-9) Alexa Fluor® 647: sc-13117 AF647. Direct fluorescent western blot analysis of neuropilin-2 expression in SK-N-SH (**A**) and NIH/3T3 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 790: sc-516731.
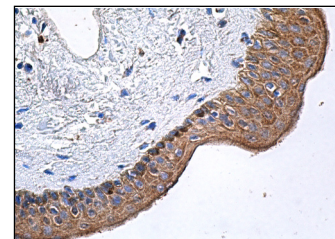
neuropilin-2 (C-9): sc-13117. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells.

SELECT PRODUCT CITATIONS

1. Rieger, J., et al. 2003. Human malignant glioma cells express semaphorins and their receptors, neuropilins and plexins. Glia 42: 379-389.

2. Roy, H., et al. 2010. VEGF-DδNδC mediated angiogenesis in skeletal muscles of diabetic WHHL rabbits. Eur. J. Clin. Invest. 40: 422-432.

3. Herzog, B., et al. 2011. VEGF binding to NRP1 is essential for VEGF stimulation of endothelial cell migration, complex formation between NRP1 and VEGFR2, and signaling via FAK Tyr407 phosphorylation. Mol. Biol. Cell 22: 2766-2776.

4. Sabag, A.D., et al. 2012. Semaphorin-3D and semaphorin-3E inhibit the development of tumors from glioblastoma cells implanted in the cortex of the brain. PLoS ONE 7: e42912.

5. Sabag, A.D., et al. 2014. The role of the plexin-A2 receptor in Sema3A and Sema3B signal transduction. J. Cell Sci. 127: 5240-5252.

6. Nakayama, H., et al. 2015. Infantile hemangioma-derived stem cells and endothelial cells are inhibited by class 3 semaphorins. Biochem. Biophys. Res. Commun. 464: 126-132.

7. Aung, N.Y., et al. 2016. Specific neuropilins expression in alveolar macrophages among tissue-specific macrophages. PLoS ONE 11: e0147358.

8. Po, A., et al. 2017. Noncanonical GLI1 signaling promotes stemness features and *in vivo* growth in lung adenocarcinoma. Oncogene 36: 4641-4652.

9. Smolkin, T., et al. 2018. Complexes of plexin-A4 and plexin-D1 convey semaphorin-3C signals to induce cytoskeletal collapse in the absence of neuropilins. J. Cell Sci. 131: jcs208298.

RESEARCH USE

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