



plexin-B1 (N-18): sc-10145

BACKGROUND

Plexins are a family of large, transmembrane receptors for multiple classes of semaphorins in vertebrates. Plexins are widely expressed, and regions of their extracellular domain are homologous to both scatter factor receptors and semaphorin domains. Plexins may act as semaphorin receptors alone or in combination with neuropilins. Plexins are divided into four subfamilies designated plexin-A, -B, -C, and -D. *Drosophila* plexin A is a receptor for class I semaphorins and controls motor and axon guidance. Plexin A3 mediates cell-repelling cues. Plexins B and C are receptors for Sema 4 and Sema 7, respectively.

REFERENCES

1. Artigiani, S., et al. 1992. Plexins, semaphorins, and scatter factor receptors: a common root for cell guidance signals? *IUBMB. Life* 48: 477-478.
2. Kolodkin, A.L., et al. 1993. The semaphorin genes encode a family of transmembrane and secreted growth cone guidance molecules. *Cell* 75: 1389-1399.
3. Kameyama, T., et al. 1996. Identification of plexin family molecules in mice. *Biochem. Biophys. Res. Commun.* 226: 396-402.
4. Tamagnone, L., et al. 1997. Control of invasive growth by hepatocyte growth factor (HGF) and related scatter factors. *Cytokine Growth Factor Rev.* 8: 129-142.
5. Winberg, M.L., et al. 1998. Plexin A is a neuronal semaphorin receptor that controls axon guidance. *Cell* 95: 903-916.
6. Tamagnone, L., et al. 1999. Plexins are a large family of receptors for transmembrane, secreted, and GPI-anchored semaphorins in vertebrates. *Cell* 99: 71-80.
7. Takahashi, T., et al. 1999. Plexin-neuropilin-1 complexes form functional semaphorin-3A receptors. *Cell* 99: 59-69.

CHROMOSOMAL LOCATION

Genetic locus: PLXNB1 (human) mapping to 3p14.

SOURCE

plexin-B1 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of plexin-B1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10145 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

plexin-B1 (N-18) is recommended for detection of plexin-B1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 plexin-B1 siRNA (h): sc-42176, plexin-B1 shRNA Plasmid (h): sc-42176-SH and plexin-B1 shRNA (h) Lentiviral Particles: sc-42176-V.

Molecular Weight of plexin-B1: 300/200 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Swiercz, J.M., et al. 2002. Plexin-B1 directly interacts with PDZ-RhoGEF/LARG to regulate RhoA and growth cone morphology. *Neuron* 35: 51-63.
2. Goldberg, J.L., et al. 2004. An oligodendrocyte lineage-specific semaphorin, Sema5A, inhibits axon growth by retinal ganglion cells. *J. Neurosci.* 24: 4989-4999.
3. Regev, A., et al. 2005. Expression of plexin-B1 in the mouse ovary and its possible role in follicular development. *Fertil. Steril.* 84: 1210-1219.
4. Chabbert-de Ponnat, I., et al. 2005. Soluble CD100 functions on human monocytes and immature dendritic cells require plexin-C1 and plexin-B1, respectively. *Int. Immunol.* 17: 439-447.
5. Harduf, H., et al. 2007. Human uterine epithelial RL95-2 and HEC-1A cell-line adhesiveness: the role of plexin-B1. *Fertil. Steril.* 87: 1419-1427.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.