

# plexin-B3 (K-12): sc-46241

## BACKGROUND

Plexins are a family of large, transmembrane receptors for multiple classes of semaphorins in vertebrates. They 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. Plexin-B1 and -B2 are both receptors for Sema4D, which stimulates axonal outgrowth of embryonic dorsal root ganglion neurons. Plexin-B3 binds to Sema5A, which controls axon guidance and can initiate the intracellular signaling of the hepatocyte growth factor/scatter factor receptor Met.

## REFERENCES

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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.
8. Masuda, K., et al. 2004. Sema4D stimulates axonal outgrowth of embryonic DRG sensory neurones. *Genes Cells* 9: 821-829.
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## CHROMOSOMAL LOCATION

Genetic locus: PLXNB3 (human) mapping to Xq28; Plxnb3 (mouse) mapping to X A7.3.

## SOURCE

plexin-B3 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of plexin-B3 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-46241 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

plexin-B3 (K-12) is recommended for detection of plexin-B3 of mouse, rat and 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).

plexin-B3 (K-12) is also recommended for detection of plexin-B3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for plexin-B3 siRNA (h): sc-45581, plexin-B3 siRNA (m): sc-45582, plexin-B3 shRNA Plasmid (h): sc-45581-SH, plexin-B3 shRNA Plasmid (m): sc-45582-SH, plexin-B3 shRNA (h) Lentiviral Particles: sc-45581-V and plexin-B3 shRNA (m) Lentiviral Particles: sc-45582-V.

Molecular Weight of plexin-B3: 207 kDa.

## 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.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.