

plexin-D1 (H-70): sc-67145

BACKGROUND

Plexins are a family of large transmembrane receptors for multiple classes of semaphorins. Plexins are widely expressed and may act as semaphorin receptors alone or in combination with neuropilins. Plexins are divided into four subfamilies, plexin-A, -B, -C and -D. Plexin-D1 is expressed strongly in endothelial cells of developing blood vessels and in lower levels in placenta, heart, brain, kidney, testis and lung. Expression is more robust in mouse and human embryonic cells than in adult cells, and the protein is detected in early ganglia, cortex and striatum. The gene *PLXND1*, which encodes for the protein, localizes to chromosome 3q22.1. A defect in this gene causes the dominantly inherited disorder Mobius syndrome 2 (MBS2) which is characterized by paralysis of the facial nerve.

REFERENCES

1. 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.
2. Deutsch, U. 2004. Semaphorins guide PerPlexeD endothelial cells. *Dev. Cell* 7: 1-2.
3. Gitler, A.D., et al. 2004. Plexin-D1 and semaphorin signaling are required in endothelial cells for cardiovascular development. *Dev. Cell* 7: 107-116.
4. Torres-Vazquez, J., et al. 2004. Semaphorin-plexin signaling guides patterning of the developing vasculature. *Dev. Cell* 7: 117-123.
5. van der Zwaag, B., et al. 2004. Sequence analysis of the plexin-D1 gene in Möbius syndrome patients. *Pediatr. Neurol.* 31: 114-118.
6. Li, S., et al. 2004. Advanced cardiac morphogenesis does not require heart tube fusion. *Science* 305: 1619-1622.
7. Peralá, N.M., et al. 2005. The expression of plexins during mouse embryogenesis. *Gene Expr. Patterns* 5: 355-362.
8. Gu, C. 2005. Semaphorin 3E and plexin-D1 control vascular pattern independently of neuropilins. *Science* 307: 265-268.

CHROMOSOMAL LOCATION

Genetic locus: *PLXND1* (human) mapping to 3q22.1; *Plxnd1* (mouse) mapping to 6 E3.

SOURCE

plexin-D1 (H-70) is a rabbit polyclonal antibody raised against amino acids 211-280 mapping within an N-terminal extracellular domain of plexin-D1 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.

STORAGE

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

APPLICATIONS

plexin-D1 (H-70) is recommended for detection of plexin-D1 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).

plexin-D1 (H-70) is also recommended for detection of plexin-D1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for plexin-D1 siRNA (h): sc-45585, plexin-D1 siRNA (m): sc-45586, plexin-D1 shRNA Plasmid (h): sc-45585-SH, plexin-D1 shRNA Plasmid (m): sc-45586-SH, plexin-D1 shRNA (h) Lentiviral Particles: sc-45585-V and plexin-D1 shRNA (m) Lentiviral Particles: sc-45586-V.

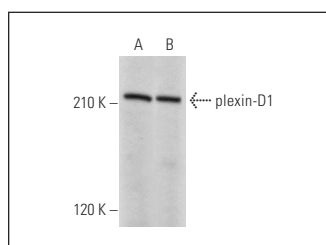
Molecular Weight of plexin-D1: 212 kDa.

Positive Controls: mouse heart extract: sc-2254 or mouse placenta extract: sc-364247.

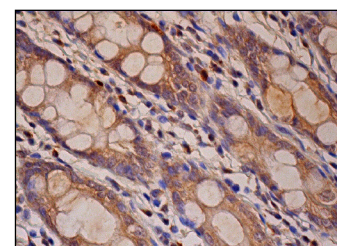
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



plexin-D1 (H-70): sc-67145. Western blot analysis of plexin-D1 expression in mouse heart (A) and mouse placenta (B) tissue extracts.



plexin-D1 (H-70): sc-67145. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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