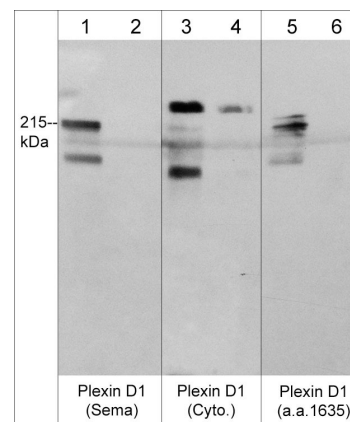


Background

Plexins are a family of large integral membrane proteins that complex with neuropilins to form semaphorin co-receptors. The extracellular region of plexins contains a semaphorin domain, multiple glycine-rich motifs, and MET-related sequences. The cytoplasmic region contains a Sex/Plexin domain and putative tyrosine phosphorylation sites that mediate signal transduction after activation. Plexin D1 is a type I transmembrane protein that may be expressed as multiple isoforms in many cell types, including neurons and endothelial cells. Semaphorin 3E (Sema-3E) and semaphorin 4A can bind Plexin D1, and ligand binding leads to phosphorylation of Tyr-1642 and activation of Plexin D1. Sema-3E and its receptor are important for angiogenesis that occurs during blood vessel development and repair. In cancers, Sema-3E and Plexin D1 are expressed in tumor tissues and cancer cells, and the interaction of these molecules may promote cancer cell migration and metastatic spreading. Thus, Plexin D1, and its ligand Sema-3E, may be important regulators of angiogenesis and metastasis.

Background References

van der Zwaag, B. et al. (2002) Dev Dyn. 2002 Nov;225(3):336-43.
Deutsch, U. (2004) Dev Cell. 7(1):1.
Casazza, A. et al. (2010) J Clin Invest. 120(8):2684.



Western blot analysis of Plexin D1 expression in human endothelial cells (HUVEC) (lanes 1-6). The blots were probed with rabbit polyclonals anti-Plexin D1 (Sema domain) (lanes 1 & 2), anti-Plexin D1 (Cytoplasmic domain) (lanes 3 & 4), and anti-Plexin D1 (a.a. 1635-1647) (lanes 5 & 6). Each antibody was used in the presence of their respective blocking peptide (lanes 2, 4 & 6).

Applications

WB 1:1000
ELISA 1:2000

Species Reactivity

Hu, Rt, Ms

Specificity

This antibody was affinity purified using Plexin D1 (Cytoplasmic) peptide (without carrier). The antibody detects 250, 215, and 195 kDa bands corresponding to the apparent molecular mass of Plexin D1 variants in human umbilical vein endothelial cells.

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Immunogen

Uniprot ID: Q9Y4D7

Plexin D1 synthetic peptide (coupled to carrier protein) corresponds to amino acids in the cytoplasmic domain from human Plexin D1. This sequence is well conserved in rat and mouse Plexin D1, and has low homology to other Plexin family members.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Related Products

PP1301 Plexin A1 (Sema Domain) Rabbit Polyclonal
PP1841 Plexin B1 (C-terminal region) Rabbit Polyclonal
PP4421 Plexin D1 (Sema Domain) Rabbit Polyclonal
PP4441 Plexin D1 (a.a. 1635-1647) Rabbit Polyclonal
SP4461 Semaphorin-3E (N-terminal region) Rabbit Polyclonal

Product References

Mazzotta, C. et al. (2015) Arthritis Res Ther. 17(1):221.
WB: human endothelial cells

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