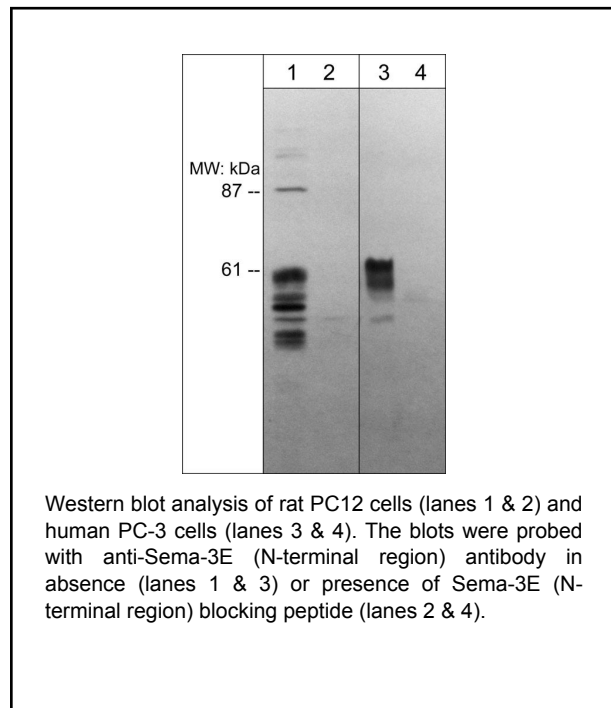


Background

The Semaphorin family of axon guidance molecules includes secreted, transmembrane, and GPI-anchored extracellular molecules that have been implicated in neuron development, vascular disease, and tumor progression. There are eight classes of semaphorin genes, all of which are characterized by a conserved 500 amino acid, cystine-rich Sema domain. Semaphorin 3E (Sema-3E) is a class III secreted semaphorin that binds Plexin D1 receptor, and has putative roles in axon guidance, angiogenesis, and cancers. Mutations in the Sema-3E gene are associated with CHARGE syndrome, a disorder that has nerve and cardiovascular abnormalities. The Sema-3E protein is expressed as full length (87 kDa) and furin-dependent processed forms (61 and 25 kDa). These forms are observed as monomers, as well as homo- and hetero-dimers. Sema-3E protein is frequently expressed in human cancer cell lines and in solid tumors from breast cancer patients. The expression of Sema-3E in mammary adenocarcinoma cells induces the ability to form experimental lung metastasis, and this activity requires furin-dependent production of the 61 kDa Sema-3E protein.

Background References

- Feiner, L. et al. (1997) *Neuron*. 19(3):539.
 Gu, C. et al. (2005) *Science*. 307(5707):265.
 Casazza, A. et al. (2010) *J Clin Invest*. 120(8):2684.



Applications

WB	1:1000
ELISA	1:2000

Species Reactivity

Hu, Rt, Ms, Ck

Specificity

This antibody was affinity purified using Semaphorin 3E (N-terminal region) peptide (without carrier). The antibody detects 87 and 61 kDa bands corresponding to the full-length and furin-processed forms of Sema-3E in human PC-3 and rat PC12 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: O15041

Sema-3E (N-terminal region) synthetic peptide (coupled to carrier protein) corresponds to amino acids in the N-terminal region of human Sema-3E. This sequence is well conserved in rat, mouse, and chicken Sema-3E, and has low homology to other semaphorin 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

- PP4401 Plexin D1 (Cytoplasmic domain) Rabbit Polyclonal
- PP4421 Plexin D1 (Sema Domain) Rabbit Polyclonal
- PP4441 Plexin D1 (a.a. 1635-1647) Rabbit Polyclonal
- SK6190 Sema-3A and NRP1/Plexin A1 Receptor Antibody Sampler Kit
- SK6570 Sema-3E and Plexin D1 Receptor Antibody Sampler Kit

Product References

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

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