

Semaphorin-3A (Central Region)

Cat. # SP1221

Host Rabbit Polyclonal

Size 100 µl

Background:

One family of inhibitory axon guidance molecules is the semaphorins. The semaphorins include secreted, transmembrane, and GPI-anchored extracellular molecules that are involved in regulating axon guidance by inhibiting axons from growing toward incorrect targets. Semaphorin 3A (Sema3A) may play a particularly interesting role in limiting axon regeneration since it is expressed in meningeal fibroblasts that invade the injured spinal cord and surround the glial scar. In addition, the Sema3A co-receptors, Neuropilin-1 and Plexin-A1, are expressed on axons that regenerate up to the injured region, but do not cross this Sema3A-containing region. Thus, Sema3A and its co-receptors may have important roles in regulating axon guidance during neuronal development and after neuronal injury.

References

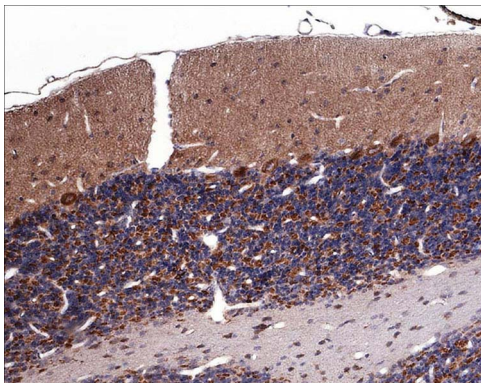
Kolodokin, A.L. et al. (1993) *Cell* 75:1389.

Luo, Y. et al. (1993) *Cell* 75:217.

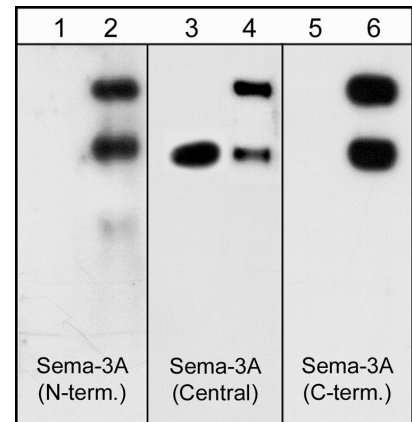
Pasterkamp, R.J. & Verhaagen, J. (2001) *Brain Res Rev* 35:36.

Tang, X-Q. et al. (2007) *J. Neurosci.* 27(22):6068 (WB: Rat E14 spinal cord)

Pan, H. et al. (2008) *Breast Cancer Res Treat. Sep 12.* [Epub] (WB: human MDA-MB-231 cells, shRNA knockdown)



Formalin fixed, citric acid treated paraffin sections of adult Rat cerebellum. Sections were probed with anti-Sema3A (SP1221) then anti-Rabbit:HRP before detection using DAB. (Images provided by Carl Hobbs and Dr. Pat Doherty at Wolfson Centre for Age-Related Diseases, King's College London).



Western blots of neonatal rat brain (lanes 1, 3 & 5) and human recombinant Sema3A/Fc chimera (95/125 kDa) (lanes 2, 4 & 6). Blots were probed with anti-Sema3A (SP1401) (lanes 1 & 2), anti-Sema3A (SP1221) (lanes 3 & 4) and anti-Sema3A (SP1241) (lane 5 & 6). The antibodies recognize both the 95 kDa and 125 kDa forms of the recombinant Sema3A.

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Cat. # SP1221

Host Rabbit Polyclonal

Size 100 µl

Immunogen:

Semaphorin 3A synthetic peptide (coupled to carrier protein) corresponding to amino acids in the central region of human Sema3A. The sequence used is highly conserved in rat and mouse Sema3A, 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. Do not aliquot. Stable for 1 year.

Applications:

WB 1:1000

ELISA 1:2000

IHC 1:300

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 1hour at room temperature.

Specificity:

The antibody detects a 95kDa* protein corresponding to the apparent molecular mass of Sema3A on SDS-PAGE immunoblots of human recombinant Sema3A and neonatal rat brain lysates.

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

Related Products:

- SX1225 Semaphorin-3A (Central Region) Peptide
- SP1241 Semaphorin-3A (C-terminal) Rabbit Polyclonal
- SP1401 Semaphorin-3A (N-terminal) Rabbit Polyclonal
- SM1881 Semaphorin-4D (C-terminal Region) Mouse Monoclonal
- PP1301 Plexin A1 (Sema Domain) Rabbit Polyclonal
- PP1841 Plexin B1 (C-terminal Region) Rabbit Polyclonal

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