

# Anti-Plexin-A1 (Sema Domain)

Cat. # **PP1301**  
Host **Rabbit Polyclonal**  
Size **100µl**

## **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. This region in Plexin-A1 binds the RhoGTPases, Rnd1 and RhoD. Recruitment of Rnd1 has been implicated in the cytoskeletal collapse that occurs after semaphorin-mediated activation of Plexin-A1, while RhoD may block this collapsing activity through interaction with the cytoplasmic region of Plexin-A1. The expression of Plexin-A1, along with the co-receptor Neuropilin-1, is upregulated in neurons after central nervous system injury. The axons from these neurons cannot cross semaphorin 3A-containing regions at the site of injury. Thus, semaphorin 3A and its co-receptors, Plexin-A1 and Neuropilin-1, may have significant roles in axon regeneration after neuronal injury.

## **References:**

Takahashi, T. & Strittmatter, S.M. (2001) Neuron 29:429.  
Tamagnone, L. et al. (1999) Cell 99:71.

## **Immunogen:**

Plexin-A1 synthetic peptide (coupled to carrier protein) corresponding to a region within the semaphorin domain in human Plexin-A1. This sequence is highly conserved in rat and mouse Plexin-A1, 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, 1mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

## **Applications:**

Western blotting	1:1000 dilution <sup>†</sup>	Immunoprecipitation	5-10 µl
ELISA	1:2000 dilution		

<sup>†</sup>End user should determine optimal dilution for their particular applications and experiments.  
Membrane was incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

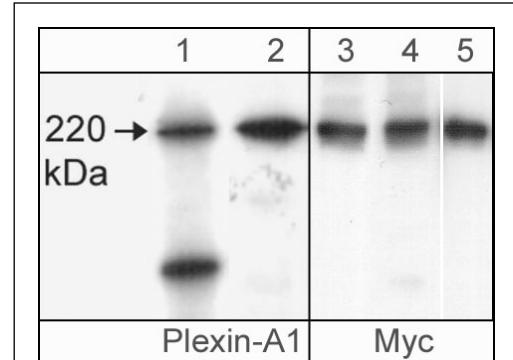
## **Specificity:**

The antibody detects a 220 kDa\* protein corresponding to the apparent molecular mass of Plexin-A1 on SDS-PAGE immunoblots of neonatal rat brain lysates and Cos-7 cells transfected with mouse Plexin-A1.

\*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:**

SP1221 Semaphorin-3A (central region) Rabbit Polyclonal	NP2111 Neuropilin-1 (CUB domain) Rabbit Polyclonal
SP1241 Semaphorin-3A (C-terminal) Rabbit Polyclonal	BL7001 Neonatal Rat Brain Lysate



The western blots showing Cos-7 cells transfected with mouse myc-tagged Plexin-A1 (lanes 1 & 3), neonatal rat brain (lane 2), or Plexin-A1 immunoprecipitated from myc-tagged Plexin-A1 transfected cells using anti-Myc (lane 4) or anti-Plexin-A1 (PP1301; lane 5). These blots were probed with either the affinity purified anti-Plexin-A1 (PP1301; lanes 1 & 2) or with mouse monoclonal anti-Myc (lanes 3-5).

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