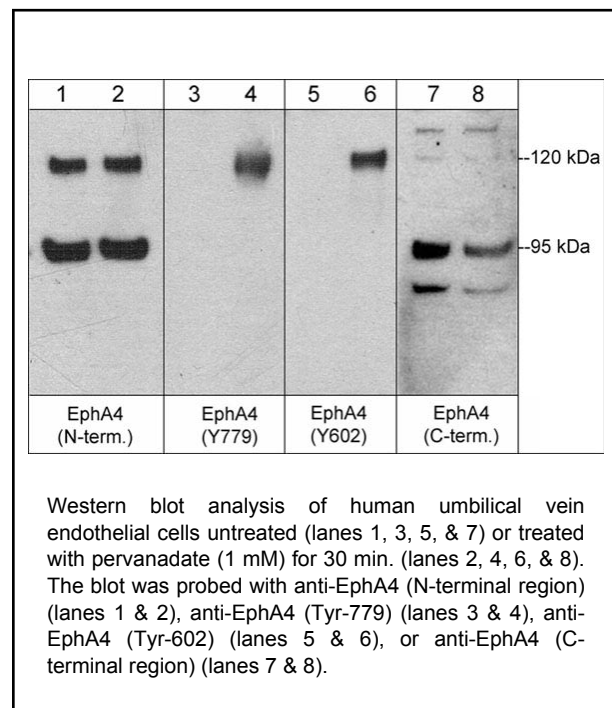


### Background

The Eph family of Receptor tyrosine kinases and their Ephrin ligands are important for cell positioning and morphogenesis during development. Eph receptors are classified into 10 EphA and 6 EphB receptors, which preferentially bind to the type A and type B ephrins, respectively. The EphA4 receptor can inhibit axon outgrowth and has roles in regulating axon projections during neural development. EphA4 signaling pathways require its kinase activity and involve binding and activation of Rho-GTPase guanine nucleotide-exchange factors (GEFs). EphA4 activation leads to autophosphorylation of Tyr-596 and Tyr-602, and the conserved sites in EphA2 are required for binding to the GEFs, Vav2 and Vav3, and ephrin-induced cell migration. The Tyr-779 site in the kinase domain is also phosphorylated in vivo and may regulate kinase activity. Activated EphA4 leads to Src kinase phosphorylation of the GEF, ephexin-1, and this activates RhoA. Thus, EphA4 signaling involves complex tyrosine phosphorylation in its cytoplasmic region along with interaction with several GEFs.

### Background References

Binns, K.L. et al. (2000) Mol. Cell. Biol. 20(13):4791.  
 Fang, W.B. et al. (2008) J. Biol. Chem. 283(23):16017.  
 Lackmann, M. & Boyd, A.W. (2008). Sci. Signal. 1(15):re2.



### Applications

WB 1:1000  
 ELISA 1:2000

### Species Reactivity

Hu, Rt, Ms, Ck

### Specificity

This antibody detects 95 and 120 kDa\* bands corresponding to EphA4 in Western blots of HUVEC cells and a 120 kDa band in mouse brain tissue.

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

**Isotype:** IgG1

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.

### Immunogen

**Uniprot ID: P54764**

Clone M280 was generated from a recombinant protein corresponding to amino acids in the N-terminal region of human EphA4. This region has less than 50% homology to similar regions in other EphA and EphB family members.

### Buffer and Storage

Mouse monoclonal antibody purified with protein A chromatography 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

EP2711 EphA4 (C-terminal region) Rabbit Polyclonal  
 EP2731 EphA4 (Tyr-602)[conserved site], phospho-specific Rabbit Polyclonal  
 EP2751 EphA4 (Tyr-779)[conserved site], phospho-specific Rabbit Polyclonal  
 EP2821 Ephexin-1 (C-terminal region) Rabbit Polyclonal  
 EP2841 Ephexin-1 (Tyr-87), phospho-specific Rabbit Polyclonal

### Product References

Yang, WH et al. (2018) Cancer Res. 78(14):3761.  
 WB: MDA-MB-231 cells, siRNA knockdown  
 Schoonaert, L. et al. (2017) J Biol Chem. 292(27):11452.  
 WB: EphA4 recombinant  
 Zhao, J. et al. (2017) Neuroscience. 347:11.  
 WB: mouse brain

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