

#### 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

Blocking 1:1000  
ELISA 50 ng/well

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.

#### Specificity

This peptide is specifically recognized by EphA4 (C-terminal region) antibody (EP2711) in ELISA, and has been shown to block the reactivity of EP2711 in Western blot and is recommended for blocking in immunocytochemistry.

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

#### Peptide Sequence

EphA4 synthetic peptide corresponding to amino acids in the C-terminal region of human EphA4. This sequence has significant homology to the conserved site in rat and mouse EphA4, and has low homology to other EphA and EphB family members.

#### Buffer and Storage

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.  
Store at -20°C. Stable for 1 year.

#### Related Products

EP2711 EphA4 (C-terminal region) Rabbit Polyclonal  
EM2801 EphA4 (N-terminal region) Mouse Monoclonal  
EP2751 EphA4 (Tyr-779)[conserved site], phospho-specific Rabbit Polyclonal  
EX2735 phospho-EphA4 (Tyr-602) Blocking Peptide  
EP2821 Ephexin-1 (C-terminal region) Rabbit Polyclonal

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