

**Phospho-EphA2 (Tyr588) (D7X2L) Rabbit mAb**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 125	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P29317	<b>Entrez-Gene Id:</b> 1969
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**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

Phospho-EphA2 (Tyr588) (D7X2L) Rabbit mAb recognizes endogenous levels of EphA2 protein only when phosphorylated at Tyr588. This antibody may cross-react with other overexpressed phosphotyrosine proteins.

**Species predicted to react based on 100% sequence homology**

Mouse, Rat, Monkey

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr588 of human EphA2 protein.

**Background**

The Eph receptors are the largest known family of receptor tyrosine kinases (RTKs). They can be divided into two groups based on sequence similarity and on their preference for a subset of ligands: EphA receptors bind to a glycosylphosphatidylinositol-anchored ephrin A ligand; EphB receptors bind to ephrin B proteins that have a transmembrane and cytoplasmic domain (1,2). Research studies have shown that Eph receptors and ligands may be involved in many diseases including cancer (3). Both ephrin A and B ligands have dual functions. As RTK ligands, ephrins stimulate the kinase activity of Eph receptors and activate signaling pathways in receptor-expressing cells. The ephrin extracellular domain is sufficient for this function as long as it is clustered (4). The second function of ephrins has been described as "reverse signaling", whereby the cytoplasmic domain becomes tyrosine phosphorylated, allowing interactions with other proteins that may activate signaling pathways in the ligand-expressing cells (5). Various stimuli can induce tyrosine phosphorylation of ephrin B, including binding to EphB receptors, activation of Src kinase, and stimulation by PDGF and FGF (6). Tyr324 and Tyr327 have been identified as major phosphorylation sites of ephrin B1 *in vivo* (7).

Phosphorylation of Tyr594 was identified in several tumor cell lines (8,9). It was demonstrated that phosphorylated Tyr588 and Tyr594 of EphA2 provide binding sites for guanine nucleotide exchange factors Vav2 and Vav3, which may be involved in regulation of cell migration (10).

**Background References**

1. Wilkinson, D.G. (2000) *Int Rev Cytol* 196, 177-244.
2. Klein, R. (2001) *Curr Opin Cell Biol* 13, 196-203.
3. Dodelet, V.C. and Pasquale, E.B. (2000) *Oncogene* 19, 5614-9.
4. Holder, N. and Klein, R. (1999) *Development* 126, 2033-44.
5. Brückner, K. et al. (1997) *Science* 275, 1640-3.
6. Palmer, A. et al. (2002) *Mol Cell* 9, 725-37.
7. Kalo, M.S. et al. (2001) *J Biol Chem* 276, 38940-8.
8. Guo, A. et al. (2008) *Proc Natl Acad Sci U S A* 105, 692-7.
9. Rikova, K. et al. (2007) *Cell* 131, 1190-203.
10. Fang, W.B. et al. (2008) *J Biol Chem* 283, 16017-26.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

H: Human

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