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#6997**EphA2 (D4A2) XP[®] Rabbit mAb**

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

Applications: W, IP, IHC-Bond, IHC-P, IF-IC	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 125	Source/Isotype: Rabbit IgG	UniProt ID: #P29317	Entrez-Gene Id: 1969
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation
IHC Leica Bond
Immunohistochemistry (Paraffin)
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:100
1:50 - 1:200
1:100 - 1:400
1:200 - 1:800

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.

For a carrier free (BSA and azide free) version of this product see product #27968.

Specificity/Sensitivity

EphA2 (D4A2) XP[®] Rabbit mAb recognizes endogenous levels of total EphA2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with human EphA2 recombinant protein. The epitope corresponds to a region surrounding Arg907 of human EphA2.

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).

EphA2 is overexpressed in various tumor cells, and it has been suggested that EphA2 may promote malignancy. However, several studies demonstrate that EphA2 plays an important role in tumor suppression (8). The role of EphA2 in tumor development may depend upon regulation of its tyrosine kinase activity.

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, H. et al. (2006) *Cancer Res* 66, 7050-7058.

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 **IHC-Bond:** IHC Leica Bond **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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