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# EphA7 (D1C3K) Rabbit mAb

**Cell Signaling**  
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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	130	Rabbit IgG	#Q15375	2045

**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**

EphA7 (D1C3K) Rabbit mAb recognizes endogenous levels of total EphA7 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu914 of human EphA7 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. While 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).

The EphA7 receptor preferentially binds ephrin-A5 as a ligand. This ligand-receptor interaction stimulates EphA7 signaling and induces apoptotic cell death through TNFR1 and caspase-8 pathway (6,7). EphA7 plays a critical role in organ development during neural tube closure, cortical dendritic development and spine maturation as well as urine tract insertion (8-10). Secreted EphA7 has been shown to promote somatic cell reprogramming through ERK activity reduction (11). Silencing of the secreted form of EphA7 is associated with germinal center B cell lymphomas. The secreted form of EphA7 has been proposed as a soluble tumor suppressor in lymphoma (12-14).

**Background References**

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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. Lee, H. et al. (2013) *Mol Cells* 35, 450-5.
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12. Oricchio, E. and Wendel, H.G. (2012) *Cell Cycle* 11, 1076-80.
13. Dawson, D.W. et al. (2007) *Oncogene* 26, 4243-52.
14. Oricchio, E. et al. (2011) *Cell* 147, 554-64.

**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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**WB:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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