Revision 3

Store at -20C

#83029

EphB2 (D2X2I) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-IC	H M R	Endogenous	130	Rabbit IgG	#P29323	2048

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:200
Immunofluorescence (Immunocytochemistry)	1:600

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 #87529.

Specificity/Sensitivity

EphB2 (D2X2I) Rabbit mAb recognizes endogenous levels of total EphB2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala573 of human EphB2 protein.

Background

The ephrin receptor B2 (EphB2) is an ephrin family receptor tyrosine kinase that plays an important role in regulating growth and development of multiple tissues and organs (1,2). The EphB2 transmembrane receptor protein contains a kinase domain, a PDZ motif, and a SAM domain within a conserved cytoplasmic domain. A ligand binding domain, a cysteine-rich domain, and fibronectin type III repeats comprise the conserved EphB2 extracellular domain (3). EphB2 binds with high affinity to ephrin B ligands, and to some ephrin A proteins, to initiate bidirectional signaling between neighboring cells (1,2). Upon binding, EphB2-Ephrin B2 dimers form a heterotetramer and position the receptor-ligand complex on the cell membrane to facilitate bidirectional signal transduction (3). In addition to associating with ephrin ligands, EphB2 also regulates a number of biological processes through interaction with focal adhesion kinase (FAK), NMDA receptor (NMDAR), the Rac1 guanine nucleotide exchange factor Tiam1, and p21-activated kinase (PAK1) (4-7). While some studies support a role for EphB2 as a pro-oncogenic kinase, other research suggests that EphB2 acts as a tumor suppressor (1,2,4,8).

Background References

1. Pasquale, E.B. (2008) *Cell* 133, 38-52.
2. Klein, R. (2009) *Nat Neurosci* 12, 15-20.
3. Himanen, J.P. et al. (2001) *Nature* 414, 933-8.
4. Wang, S.D. et al. (2012) *Oncogene* 31, 5132-43.
5. Nolt, M.J. et al. (2011) *J Neurosci* 31, 5353-64.
6. Tolias, K.F. et al. (2007) *Proc Natl Acad Sci U S A* 104, 7265-70.
7. Srivastava, N. et al. (2013) *Mol Cell Neurosci* 52, 106-16.
8. Blume-Jensen, P. and Hunter, T. (2001) *Nature* 411, 355-65.

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

Cross-Reactivity Key

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

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