Revision 1

#12560 Store at -20C

EphB6 Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	125	Rabbit	#O15197	2051

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

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

Specificity / Sensitivity

EphB6 antibody recognizes endogenous levels of total EphB6 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala927 of human EphB6 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

EphB6 is a kinase-defective receptor and member of the ephrin-B family of transmembrane proteins (1). Although lacking kinase activity, EphB6 can regulate cellular functions through its interaction with adaptor proteins and other Eph family members (2). In hematopoietic cells, EphB6 is specifically expressed in the T cell population (3) and functions as an important regulator of T cell receptor (TCR) mediated signaling. Upon binding with its ephrin-B1 or ephrin-B2 ligand, EphB6 modulates TCR activity through inhibition of JNK signaling, reduction of CD25 expression, and decreased IL-2 secretion (4). Reduced levels of cell proliferation and cytokine secretion are seen in EphB6 knock-out mice relative to wild type (5). In conjunction with EphB3 receptor activation, EphB6 suppresses Fas receptor induced apoptosis by triggering the Akt activation pathway (6). Research indicates that decreased EphB6 expression is associated with a higher degree of metastasis in various cancers, including breast cancer (7), lung cancer (8), and neuroblastoma (9). EphB6 is thought to reduce cancer invasiveness through its effect on cell adhesion and migration. Following EphrinB1 ligand binding, EphB6 is phosphorylated by kinases such as Src and another active EphB kinase (2, 10, 11). Phosphorylated EphB6 forms a stable complex with Cbl and initiates Cbl inhibition of cell adhesion (2,11). EphB6 regulates signal transduction through direct interaction with other active Eph receptor kinases, sequestering these EphB6-bound receptors and inhibiting typical signal transduction function (12).

Background References

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3. Shimoyama, M. et al. (2000) *Growth Factors* 18, 63-78.
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5. Luo, H. et al. (2004) *J Clin Invest* 114, 1762-73.
6. Maddigan, A. et al. (2011) *J Immunol* 187, 5983-94.
7. Fox, B.P. and Kandpal, R.P. (2006) *Biochem Biophys Res Commun* 340, 268-76.
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10. Matsuoka, H. et al. (2005) *J Biol Chem* 280, 29355-63.
11. Truitt, L. et al. (2010) *Cancer Res* 70, 1141-53.
12. Fox, B.P. and Kandpal, R.P. (2011) *Cancer Genomics Proteomics* 8, 185-93.

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

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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Limited Uses