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Product Information

Anti-EphB6
produced in goat, affinity isolated antibody

Catalog Number **E5029**

Product Description

Anti-Mouse EphB6 is produced in goat using as immunogen a purified recombinant mouse EphB6, extracellular domain, expressed in mouse NSO cells. Affinity isolated antibody is obtained from goat anti-EphB6 antiserum by immuno-specific purification which removes essentially all goat serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-Mouse EphB6 recognizes recombinant mouse EphB6 by immunoblotting and direct ELISA. The antibody shows less than 1% cross-reactivity with recombinant mouse EphB2, recombinant mouse EphB3, and recombinant mouse EphB4.

EphB6, also known as Mep, is a member of the Eph receptor family, which binds members of the Ephrin ligand family. Two classes of receptors exist, designated A and B, that have an extracellular domain made up of a globular domain, a cysteine-rich domain, and two fibronectin type III domains, followed by the transmembrane region and cytoplasmic region. The cytoplasmic region contains a juxtamembrane region with two tyrosines, the major autophosphorylation sites, along with a kinase domain, and a conserved sterile alpha motif (SAM) in the C-terminus, the latter including one conserved tyrosine. The extracellular domains of human and mouse EphB6 share 92% amino acid identity. The calculated molecular mass of the reduced mouse EphB6/Fc monomer is 87.3 kDa, but as a result of glycosylation, recombinant EphB6/Fc migrates as an ~100 kDa protein under reducing conditions in SDS-PAGE.

EphB6 lacks intrinsic kinase activity,[3] however, cross-linking of the Eph6 receptor leads to activation of the cellular kinase activity.[4] EphB6 binds to Ephrin-B2 and Ephrin B3.[5] Only membrane-bound or Fc-clustered ligands have been shown to activate the receptor *in vitro*. Soluble monomeric ligands bind the receptor, but do not induce receptor autophosphorylation and activation.[1] The ephrin ligands and Eph receptors display reciprocal expression *in vivo*.[2] Developing and adult neural tissue express nearly all of the Eph receptors and ephrin ligands.[2] Ephs and ephrins play a significant role in angiogenesis.[2]

Reagent

Supplied as a lyophilized powder from a 0.2 μm filtered solution of phosphate buffered saline (PBS), pH 7.4, with 5% trehalose.

Preparation Instructions

To one vial of lyophilized powder, add 0.5 ml of sterile phosphate buffered saline, pH 7.4, to produce a 0.2 mg/ml stock solution of antibody.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C for up to 6 months. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

Immunoblotting: a working antibody concentration of 1 μg/ml is recommended. The detection limit for recombinant mouse EphB6, Catalog Number E9777, is ~1 ng/lane under non-reducing and reducing conditions.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Flanagan, J.G. and P. Vanderhaegen, The ephrins and Eph receptors in neural development. *Annu. Rev. Neurosci.*, **21,** 309–345 (1998).
2. Pasquale, E.B., The Eph family of receptors. *Curr. Opin. Cell Biol.*, **9,** 608–615 (1997).
3. Gurniak, C.B., and Berg, L.J., A new member of the Eph family of receptors that lacks protein tyrosine kinase activity. *Oncogene,* **13**, 777-786 (1996).

4. Luo, H., et al., Cross-linking of EphB6 resulting in signal transduction and apoptosis in Jurkat cells. *J. Immunol.*, **167,** 1362-1370 (2001).

5. Tang. X.X., et al., Implications of EPHB6, EFNB2, and EFNB3 expressions in human neuroblastoma. *Proc. Natl. Acad. Sci. USA*, **97**, 10936-10941 (2000).

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