3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-EphB4
produced in goat, affinity isolated antibody

Catalog Number **E4779**

Product Description

Anti-EphB4 is produced in goat using as immunogen a purified recombinant mouse EphB4, extracellular domain, expressed in mouse NSO cells. Affinity isolated antibody is obtained from goat anti-EphB4 antiserum by immuno-specific purification which removes essentially all goat serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-EphB4 has the ability to recognize recombinant mouse EphB4 in immunoblotting, immunohisto-chemistry and flow cytometry. By ELISA, the antibody exhibits ~ 5% cross-reactivity with recombinant mouse EphB6 and recombinant mouse EphA3. The antibody shows <1% cross-reactivity with recombinant mouse EphA2, EphA4, EphA6, EphA7, EphA8, EphB2, and EphB3.

EphB4, also known as Htk, Myk1, Tyro11, and Mdk2, 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 motif with two tyrosines, which are the major autophosphorylation sites, along with a kinase domain, and a conserved sterile alpha motif (SAM) in the carboxyl terminus, which includes one conserved tyrosine. Human and mouse EphB4 extracellular domains share ~88% homology.

Ligand recognition and binding leads to activation of intrinsic kinase activity. Only membrane-bound or Fc-clustered ligands have been shown to activate the receptor *in vitro*. Soluble monomeric ligands can bind the receptor, but do not induce receptor autophos-phorylation and activation.[1]

The Eph receptors and ephrin ligands 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.

Reagent

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

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of sterile PBS to produce a 0.1 mg/mL stock solution.

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. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

Immunoblotting: a working concentration of 0.1-0.2 μg/mL is recommended. The detection limit for recombinant mouse EphB4 is ~5 ng/lane under non-reducing and reducing conditions

Immunohistochemistry: a working concentration of 5-15 μg/mL will detect EphB4 in cells and tissues.

Flow cytometry: this antibody has been tested on MCF7 human breast cancer cell line. This antibody can be used at a concentration of 2.5 μg/10^6 cells.

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

References

1. Flanagan, J.G. and Vanderhaegen, P., 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).

IDC,PHC 05/12-1