

Product Information

EphB6 EXTRACELLULAR DOMAIN/Fc CHIMERA

Mouse, Recombinant
Expressed in NSO mouse myeloma cells

Product Number **E 9777**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: Mep

Product Description

Recombinant mouse EphB6 extracellular domain/Fc chimera consists of amino acid residues 1-587 (extracellular domain of mouse EphB6)¹ that was fused by means of a polypeptide linker to the Fc portion of human IgG₁ that is 6X histidine-tagged at the carboxyl terminal. The chimeric protein is expressed in a mouse myeloma cell line, NSO. Recombinant EphB6 is a disulfide-linked homodimer. The amino-terminus is Leu(33) based on N-terminal sequencing. The calculated molecular mass of the reduced protein is approximately 87.3 kDa, but as a result of glycosylation, the recombinant EphB6/Fc migrates as an approximately 100 kDa protein on reducing SDS-PAGE.

The Eph receptor family, of which EphB6 is a member, 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 is a juxtamembrane region with two tyrosines, the major phosphorylation sites, and a conserved sterile alpha motif (SAM) in the carboxyl terminus, the latter including one conserved tyrosine.^{2,3} EphB6 lacks intrinsic kinase activity¹, however, cross-linking of the Eph6 receptor leads to activation of the cellular kinase activity.⁴ EphB6 binds to Ephrin-B2 and Ephrin B-3.⁵ Human and mouse EphB6 extracellular domains share approximately 92% homology. Only membrane-bound or Fc-clustered ligands have been shown to activate the receptor *in vitro*.²

Nearly all Ephrin-related receptors and ligands have been found to be expressed in developing and adult neural tissue.³ The Eph/Ephrin families may also play a role in angiogenesis.³

Reagents

Recombinant mouse EphB6 extracellular domain/Fc chimera is supplied as approximately 200 μg of protein lyophilized from a sterile filtered phosphate-buffered saline (PBS) solution.

Preparation Instructions

Reconstitute the vial contents with sterile PBS. Stock solution concentration should be no less than 100 $\mu\text{g}/\text{ml}$.

Storage/Stability

Lyophilized samples are stable for more than six months at $-20\text{ }^{\circ}\text{C}$. Upon reconstitution, store at $2-4\text{ }^{\circ}\text{C}$ for up to one month. For extended storage, store in working aliquots at $-20\text{ }^{\circ}\text{C}$. Repeated freeze-thaw cycles should be avoided. Do not store in frost-free freezer.

Product Profile

EphB6/Fc activity is measured by its ability to bind immobilized recombinant mouse Ephrin-B2/Fc in a functional ELISA assay. Immobilized recombinant mouse EphB6/Fc (2 mg/ml, 100 ml/well) binds recombinant mouse Ephrin-B2/Fc with a linear range of 0.078-5 ng/ml. Optimal dilutions should be determined by each laboratory for each application.

Purity: >90% by SDS-PAGE, visualized by silver stain.

Endotoxin level: < 0.1 ng/ μg of protein as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. 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).
2. Flanagan, J.G. and P. Vanderhaegen, The ephrins and Eph receptors in neural development. *Annu. Rev. Neurosci.*, **21**, 309-345 (1998).

3. Pasquale, E.B., The Eph family of receptors. *Curr. Opin. Cell Biol.*, **9**, 608–615 (1997).
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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