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ProductInformation

EPHRIN-B2 EXTRACELLULAR DOMAIN/Fc CHIMERA
Mouse, Recombinant
Expressed in NSO mouse myeloma cells

Product Number **E 0778**
Storage Temperature –20 °C

Synonyms: Htk-L; ELF-2; LERK-5; and NLERK-1

Product Description
Recombinant mouse Ephrin-B2 extracellular domain/Fc chimera consists of amino acid residues 1-227 (extracellular domain of mouse Ephrin-B2)[1] that was fused by means of a polypeptide linker to the Fc portion of human IgG_1 that is 6X histidine-tagged at the carboxyl terminus. The chimeric protein is expressed in a mouse myeloma cell line, NSO. Recombinant Ephrin B2 is a disulfide-linked homodimer. The amino-terminus is Arg(27) determined by N-terminal sequencing. The calculated molecular mass of the reduced protein is approximately 49.6 kDa, but as a result of glycosylation, recombinant Ephrin-B2/Fc migrates as a 60-65 kDa protein on reducing SDS-PAGE.

The Ephrin ligand family, of which Ephrin-B2 is a member, binds members of the Eph receptor family. All ligands share a conserved extracellular sequence, thought to correspond to the receptor binding domain. The conserved sequence contains approximately 125 amino acids including four invariant cysteines. B-class ligands are transmembrane proteins and may be phosporylated on tyrosine upon receptor ligation. The cytoplasmic domains consist of approximately 80 highly conserved amino acids, especially the last 33. Several signaling molecules interact with the cytoplasmic region, but specific signaling roles are still unknown. Ephrin-B2 can bind EphA4, EphB1, EphB2, EphB3, and EphB4.[2,3] Human and mouse Ephrin-B2 extracellular domains share approximately 98% homology. 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 autophosphorylation and activation.[2] The ligands and receptors display reciprocal expression *in vivo*.[3]

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]

Reagent
Recombinant mouse Ephrin-B2 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 µg/ml.

Storage/Stability
Lyophilized samples are stable for greater than six months at –20 °C. Upon reconstitution, store at 2-4 °C for up to one month. For extended storage, store in working aliquots at –20 °C. Repeated freeze-thaw cycles should be avoided. Do not store in frost-free freezer.

Product Profile
Identity of Ephrin-B2/Fc was determined by western blot.

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

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

References
1. Bergemann, A. D., et al., ELF-2, a new member of the Eph ligand family, is segmentally expressed in mouse embryos in the region of the hindbrain and newly forming somites. Mol. Cell. Biol., **15,** 4921-4929 (1995).

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)

JWM/LY 10/02/01