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Product Information

Ephrin-B3/Fc Chimera, human
recombinant, expressed in *Sf*21 cells

Catalog Number **E0903**
Storage Temperature –20 °C

Synonyms: EFL-6; ELF-3; Elk-L3; LERK-8; NLERK-2

Product Description
Recombinant human Ephrin-B3/Fc chimera consists of amino acid residues 1-224 (extracellular domain of human Ephrin-B3)[1] that was fused by means of a polypeptide linker to the Fc portion of human IgG_1 that is 6× histidine-tagged at the carboxyl terminus. The chimeric protein is expressed in an insect cell line, *Sf*21, using a baculovirus expression system. Recombinant human Ephrin B3 is a disulfide-linked homodimer. The amino terminus is Leu^{28} determined by N-terminal sequencing. The calculated molecular mass of the reduced protein is ~49.2 kDa, but as a result of glycosylation, the recombinant Ephrin-B3/Fc migrates as an ~58 kDa protein on reducing SDS-PAGE.

The Ephrin ligand family, of which Ephrin-B3 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 ~125 amino acids including four invariant cysteines. B-class ligands are transmembrane proteins and may be phosphorylated at the tyrosine upon receptor ligation. The cytoplasmic domains consist of ~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-B3 can bind EphA4, EphB1, EphB2, and EphB3.[2,3] Human and mouse Ephrin-B3 extracellular domains share ~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
Supplied as a lyophilized powder from sterile-filtered phosphate buffered saline (PBS).

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
Reconstitute the vial contents with sterile PBS. Stock solution concentration should be ≥100 μg/ml.

Storage/Stability
Store the product at –20 °C. The lyophilized product is 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 a frost-free freezer.

Product Profile
Identity of Ephrin-B3/Fc is determined by Western blot.

Purity: >95% (SDS-PAGE, visualized by silver stain)

Endotoxin level: <1.0 EU/μg of the cytokine by the LAL (Limulus amebocyte lysate) method

References

1. Gale, N.W., *et al*., Elk-L3, a novel transmembrane ligand for the Eph family of receptor tyrosine kinases, expressed in embryonic floor plate, roof plate and hindbrain segments. *Oncogene*, **13,** 1343-1352 (1996).
2. Flanagan, J.G., and Vanderhaegen, P., 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).

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