



Product Information

EPHRIN-A1 EXTRACELLULAR DOMAIN/Fc CHIMERA

Mouse, Recombinant
Expressed in NSO mouse myeloma cells

Product Number **E 9902**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: B61; LERK-1; EFL-1

Product Description

Recombinant mouse Ephrin-A1 extracellular domain/Fc chimera consists of amino acid residues 1-182 (extracellular domain of mouse Ephrin-A1)¹ that was fused by means of a polypeptide linker to the Fc portion of human IgG₁ that is histidine-tagged at the carboxyl terminus. The chimeric protein is expressed in a mouse myeloma cell line, NSO. Recombinant Ephrin A1 is a disulfide-linked homodimer. The amino terminus is Asp(19) determined by N-terminal sequencing. The calculated molecular mass of the reduced protein is approximately 46.8 kDa, but as a result of glycosylation, recombinant Ephrin-A1/Fc migrates as a 50-55 kDa protein on reducing SDS-PAGE.

The Ephrin ligand family, of which Ephrin-A1 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. A-class ligands have a GPI anchor after the conserved sequence. Ephrin-A1 can bind EphA1, EphA2, EphA3, EphA4, EphA5, EphA6, EphA7, and EphB1.^{2,3} Human and mouse Ephrin-A1 extracellular domains share approximately 85% 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

Reagents

Recombinant mouse Ephrin-A1 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 a frost-free freezer.

Product Profile

Ephrin-A1/Fc activity is measured by its ability to bind immobilized recombinant mouse EphA2/Fc in a functional ELISA assay. Immobilized recombinant mouse EphA2/Fc (2 mg/ml, 100 ml/well) binds recombinant mouse Ephrin-A1/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. Takahashi, H., and Ikeda, T., Molecular cloning and expression of rat and mouse B61 gene: implications on organogenesis. *Oncogene*, **11**, 879-883 (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)

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