Data Sheet (Cat.No.TMPY-01171)

TargetMol

Ephrin B1/EFNB1 Protein, Human, Recombinant (His)

General Information

Synonyms:	EFL3;CFND;EPLG2;CFNS;EFB1;Elk-L;LERK2;ephrin-B1
Protein Construction:	A DNA sequence encoding the human EFNB1 (NP_004420.1) extracellular domain (Met 1-Lys 237) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Leu 28
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P98172
Molecular Weight:	24.5 kDa (predicted); 38 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized recombinant human EphrinB1 at 10 μg/ml (100 μl/well) can bind human EphB6 with a linear range of 0.16-4 μg/ml.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Ephrin-B1 also known as EFNB1, is a member of the ephrin family. The transmembrane- associated ephrin ligands and their Eph family of receptor tyrosine kinases are expressed by cells of the SVZ. Eph/ephrin interactions are implicated in axon guidance, neural crest cell migration, establishment of segmental boundaries, and formation of angiogenic capillary plexi. Eph receptors and ephrins are divided into two subclasses, A and B, based on

binding specificities. Ephrin subclasses are further distinguished by their mode of attachment to the plasma membrane: ephrin-A ligands bind EphA receptors and are anchored to the plasma membrane via a glycosylphosphatidylinositol (GPI) linkage, whereas ephrin-B ligands bind EphB receptors and are anchored via a transmembrane domain. An exception is the EphA4 receptor, which binds both subclasses of ephrins. EphrinB1 and B class Eph receptors provide positional cues required for the normal morphogenesis of skeletal elements. Another malformation, preaxial polydactyly, was exclusively seen in heterozygous females in which expression of the X-linked ephrinB1 gene was mosaic, so that ectopic EphB-ephrinB1 interactions led to restricted cell movements and the bifurcation of digital rays.

Reference

Davy A, et al. (2004) Ephrin-B1 forward and reverse signaling are required during mouse development. Genes Dev. 18(5): 572-83.
Compagni A, et al. (2003) Control of skeletal patterning by ephrinB1-EphB interactions. Dev Cell. 5(2): 217-30.
Wieland I, et al. (2004) Mutations of the ephrin-B1 gene cause craniofrontonasal syndrome. Am J Hum Genet. 74 (6): 1209-15.

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