

Ephrin A1/EFNA1 Protein, Human, Recombinant (His)

General Information

Synonyms:	EFL1;TNFAIP4;B61;LERK-1;LERK1;EPLG1;ECKLG;ephrin-A1;EFNA1
Protein Construction:	A DNA sequence encoding the human Ephrin-A1 (NP_004419.2) without the propeptide (Met 1-Ser182) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Asp 19
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P20827-1
Molecular Weight:	20.8 kDa (predicted); 26 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized Human Ephrin-A1 His at 2 µg/ml (100 µl/well) can bind Human EphA1 hFc, the EC50 of Human EphA1 hFc is 8.0-48.0 ng/mL.
Purity:	> 97 % 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

EPH-related receptor tyrosine kinase ligand 1 (abbreviated as Ephrin-A1) also known as ligand of eph-related kinase 1 or EFNA1, is a member of the ephrin (EPH) family. The Eph family receptor interacting proteins (ephrins) are a family of proteins that serve as the ligands of the Eph receptor, which compose the largest known subfamily

of receptor protein-tyrosine kinases (RTKs). Ephrin-A1/EFNA1 and its Eph family of receptor tyrosine kinases are expressed by cells of the SVZ. 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. Ephrin-A1 and one of its receptor EphA2 were expressed in xenograft endothelial cells and also tumor cells and play a role in human cancers, at least in part by influencing tumor neovascularization.

Reference

- Deroanne C, et al. (2003) EphrinA1 inactivates integrin-mediated vascular smooth muscle cell spreading via the Rac/PAK pathway. *J Cell Sci.* 116(7): 1367-76.
- Ojima T, et al. (2006) EphrinA1 inhibits vascular endothelial growth factor-induced intracellular signaling and suppresses retinal neovascularization and blood-retinal barrier breakdown. *Am J Pathol.* 168(1): 331-9.
- Wu D, et al. (2004) Prognostic value of EphA2 and EphrinA-1 in squamous cell cervical carcinoma. *Gynecol Oncol.* 94(2): 312-9.

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