

Ephrin A5/EFNA5 Protein, Human, Recombinant (His)

General Information

Synonyms:	AF1;GLC1M;RAGS;LERK7;EFL5;EPLG7;ephrin-A5
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Asn 203) of human Ephrin-A5 (NP_001953.1) precursor was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Gln 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P52803
Molecular Weight:	23 kDa (predicted); 27 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized human EPFA5 at 20 µg/ml (100 µl/well) can bind human EFNA4 with a linear range of 1.28-32 ng/ml.
Purity:	> 90 % 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-A5 also known as EFNA5, is a member of the Ephrin 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 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. Ephrin-A5/EFNA5 may function actively to stimulate axon fasciculation. The interaction of EFNA5 with EPHA5 also mediates communication between pancreatic islet cells to regulate glucose-stimulated insulin secretion. Ephrin-A5/EFNA5 also serves as a cognate/functional ligand for EPHA7, their interaction regulates brain development modulating cell-cell adhesion and repulsion.

Reference

- Frisén J, et al. (1998) Ephrin-A5 (AL-1/RAGS) is essential for proper retinal axon guidance and topographic mapping in the mammalian visual system. *Neuron*. 20(2): 235-43.
- Feldheim DA, et al. (2000) Genetic analysis of ephrin-A2 and ephrin-A5 shows their requirement in multiple aspects of retinocollicular mapping. *Neuron*. 25(3): 563-74.
- Wahl S, et al. (2000) Ephrin-A5 induces collapse of growth cones by activating Rho and Rho kinase. *J Cell Biol.* 149 (2): 263-70.

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