

Ephrin-A1/EFNA1 Protein, Rat (HEK293, His)

Cat. No.:	HY-P73025
Synonyms:	Ephrin-A1; LERK-1; TNF alpha-induced protein 4; EFNA1; EPLG1; TNFAIP4
Species:	Rat
Source:	HEK293
Accession:	P97553 (A18-H181)
Gene ID:	94268
Molecular Weight:	Approximately 23 kDa

PROPERTIES

AA Sequence	<p> A D R H I V F W N S S N P K F R E E D Y T V H V Q L N D Y L D I I C P H Y E D D S V A D A A M E R Y T L Y M V E H Q E Y V T C E P Q S K D Q V R W K C N Q P S A K H G P E K L S E K F Q R F T P F T L G K E F K E G H S Y Y Y I S K P I Y H Q E T Q C L K L K V T V N G K I T H S P H A H A N P Q E K R L Q A D D P E V Q V L H S I G H </p>
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Ephrin-A1 at 10µg/mL (100 µL/well) can bind biotinylated EPHA2 Protein. The ED ₅₀ for this effect is 4.986 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Ephrin-A1/EFNA1 protein, a cell surface GPI-bound ligand for Eph receptors, assumes a crucial role in orchestrating migration, repulsion, and adhesion during neuronal, vascular, and epithelial development. Functioning as a promiscuous binder, Ephrin-A1 engages Eph receptors on adjacent cells, facilitating contact-dependent bidirectional signaling. Its
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significance extends to angiogenesis and tumor neovascularization, where the recruitment of VAV2, VAV3, and the PI3-kinase p85 subunit by phosphorylated EPHA2 is pivotal for EFNA1-induced RAC1 GTPase activation, vascular endothelial cell migration, and assembly. Furthermore, Ephrin-A1 exerts anti-oncogenic effects by activating and down-regulating EPHA2, inducing its internalization and degradation. In the context of gliomas, Ephrin-A1 acts as a negative regulator, down-regulating EPHA2 and FAK, thereby mitigating the tumorigenesis process. Beyond its role in angiogenesis and tumorigenesis, Ephrin-A1 can elicit the collapse of embryonic neuronal growth cones and regulate dendritic spine morphogenesis. Existing as a monomer or homodimer, Ephrin-A1 forms heterodimers with EPHA2 and binds to a spectrum of receptor tyrosine kinases, including EPHA1, underscoring its diverse molecular interactions.

Caution: Product has not been fully validated for medical applications. For research use only.

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