

## Ephrin-A5/EFNA5 Protein, Rat (HEK293, His)

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| Cat. No.:         | HY-P73014  |
| Synonyms:         | Ephrin-A5; AL-1; EPH-related receptor tyrosine kinase ligand 7; LERK-7; EFNA5; EPLG7 |
| Species:          | Rat  |
| Source:           | HEK293   |
| Accession:        | P97605 (Q21-E202)  |
| Gene ID:          | 116683   |
| Molecular Weight: | Approximately 27 kDa   |

### PROPERTIES

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| AA Sequence         | <p>Q D P G S K V V A      D R Y A V Y W N S S      N P R F Q R G D Y H      I D V C I N D Y L D</p> <p>V F C P H Y E D S V      P E D K T E R Y V L      Y M V N F D G Y S A      C D H T S K G F K R</p> <p>W E C N R P H S P N      G P L K F S E K F Q      L F T P F S L G F E      F R P G R E Y F Y I</p> <p>S S A I P D N G R R      S C L K L K V F V R      P T N S C M K T I G      V R D R V F D V N D</p> <p>K V E N S L E P A D      D T V H E S A E P S      R G E</p> |
| Biological Activity | Immobilized rat EFNA5 at 10 µg/mL (100 µL/well) can bind Mouse EPHA3. The ED <sub>50</sub> for this effect is 150.5 ng/mL.   |
| Appearance          | Lyophilized powder   |
| Formulation         | Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.5.  |
| 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 <sub>2</sub> 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. 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

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| Background | The Ephrin-A5/EFNA5 protein, a cell surface GPI-bound ligand for Eph receptors, plays a crucial role in neuronal, vascular, and epithelial development, where Eph receptors are essential for migration, repulsion, and adhesion. EFNA5 binds promiscuously to Eph receptors on adjacent cells, initiating contact-dependent bidirectional signaling, with forward signaling downstream of the receptor and reverse signaling downstream of the ephrin ligand. When bound to its cognate receptor, EFNA5 induces compartmentalized signaling within a caveolae-like membrane microdomain, requiring the activity |
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of the Fyn tyrosine kinase. It activates the EPHA3 receptor to regulate cell-cell adhesion and cytoskeletal organization, and in association with EPHA2, may play a role in shaping lens fiber cells and maintaining lens transparency. Additionally, EFNA5 stimulates axon fasciculation and mediates communication between pancreatic islet cells, regulating glucose-stimulated insulin secretion through its interaction with EPHA5. It is also a cognate ligand for EPHA7, influencing brain development by modulating cell-cell adhesion and repulsion. Furthermore, EFNA5 interacts with EPHA8, activating this receptor, and forms a ternary complex with EPHA3 and ADAM10, mediating extracellular domain shedding and regulating the internalization and function of the EFNA5-EPHA3 complex.

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

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