Recombinant Human Ephrin-A3 Fc Chimera

Catalog Number: 359-EA

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Human Ephrin-A3 (Asn31-Ser209) Accession # AAA52368	IEGRMD	Human IgG_1 (Pro100-Lys330)	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis Asn31

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 47.7 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 60-70 kDa, reducing conditions

Activity Measured by its ability to compete with Biotinylated Recombinant Human Ephrin-A3 Fc Chimera (Catalog # BT359) for binding to immobilized recombinant mouse Eph-A6 Fc Chimera in a functional ELISA.
Optimal dilutions should be determined by each laboratory for each application.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Ephrin-A3, also known as EHK1-L, EFL-2, and LERK-3, is an approximately 25 kDa member of the Ephrin-A family of GPI-anchored ligands that bind and induce the tyrosine autophosphorylation of Eph receptors. Ephrin-A ligands are structurally related to the extracellular domains of the transmembrane Ephrin-B ligands. Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression. Ephrin-A3 preferentially interacts with receptors in the EphA family (1, 2). Ephrin-A3 is an unusual Ephrin-A molecule in its dependence on heparan sulfate binding for full activity (3). Mature human Ephrin-A3 shares 92% aa sequence identity with mouse and rat Ephrin-A3 (4). Its expression is restricted to discreet locations during the early development of multiple tissues (5). Ephrin-A3 expression can be up- or down-regulated by hypoxia in the hippocampus or vascular endothelial cells, respectively (6, 7). Ephrin-A3 down-regulation contributes to hypoxia-induced endothelial cell chemotaxis, proliferation, and tubule formation (7). Its interaction with EphA receptors induces neurite growth cone collapse and the repulsion of migrating axons (8-10). This activity is important for the accurate pathfinding of migrating axons during CNS development (10). Astrocyte-expressed Ephrin-A3 activates EphA4 on hippocampal neurons to regulate dendritic spine morphology and long term potentiation (8, 11, 12). The same interaction induces reverse signaling through Ephrin-A3 to regulate glutamate uptake by the astrocyte and the availability of glutamate in the synapse (11, 12). Astrocyte-expressed Ephrin-A3 also interacts with EphA7 to inhibit the proliferation of neural progenitor cells (13).

References:

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