Recombinant Mouse EphA7 Fc Chimera

Catalog Number: 608-A7

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Mouse EphA7 (Ala30-Pro549) Accession # JC5673	DIEGRMD	Human IgG_1 (Pro100-Lys330)	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis	Ala30
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	85.7 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	110 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized recombinant mouse EphA7 Fc Chimera at 2 µg/mL (100 µL/well) can bind recombinant human Ephrin-A4 Fc Chimera with a linear range of 0.16 - 10 ng/mL. **Optimal dilutions should be determined by each laboratory for each application.**
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
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

EphA7, also known as Mdk1, Hek11, Ehk3, Ebk, and Cek11, is a 115-120 kDa glycosylated member of the Eph family of transmembrane receptor tyrosine kinases (1, 2). The A and B classes of Eph proteins are distinguished by Ephrin ligand binding preference but have a common structural organization. EphA7 preferentially binds to and is activated by Ephrin-A1, -A2, -A3, -A4, and -A5 (3 - 6). Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression. The 527 amino acid (aa) extracellular domain (ECD) of mouse EphA7 contains an N-terminal Ephrin binding region, a cysteine-rich region, and two fibronectin type III domains (FnIII). The 421 aa cytoplasmic domain contains the tyrosine kinase domain and a sterile alpha motif (SAM) (7). Within the ECD, mouse EphA7 shares 98% and 99% aa sequence identity with human and rat EphA7, respectively. Alternate splicing generates a differentially expressed kinase-defective isoform of mouse EphA7 that lack most of the cytoplasmic domain and a soluble isoform that is truncated following the first FnIII domain (4, 6 - 9). In mouse, EphA7 is expressed in discrete regions of the developing and adult neocortex (4, 7 - 10), Purkinje layer of the cerebellum (7), limbic system (4, 8 - 10), visual and auditory systems (7, 8, 11), and the peripheral sensory nervous system (7, 8). EphA7 functions as a repulsive guidance molecule during the targeting of retinal axons to the superior colliculus and of neocortical axons to the thalamus (4, 10, 11). EphA7 is also expressed in mesenchymal cells along routes of axon innervation during limb development (12). EphA7 ligands are expressed in a complementary pattern during embryogenesis (3, 10 - 12). EphA7 is selectively expressed in early stages of the B cell lineage, and a 50 kDa secreted form is produced by mature peripheral B and T cells (6, 13). This isoform is also expressed in human lung carcinoma (14). EphA7 can be up or downregulated in a variety of human cancers (6, 15, 16).

References:

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