

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived		
	Mouse EphA3 Glu21 - His541 (Thr323Ala & Glu476Gln) Accession # Q8BRB1	IEGRMD	Human IgG ₁ (Pro100 - Lys330)
			6-His tag
	N-terminus		C-terminus
N-terminal Sequence	Glu21		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	86 kDa (monomer)		

SPECIFICATIONS

SDS-PAGE	110 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized rmEphA3/Fc Chimera at 2 µg/mL (100 µL/well) can bind rhEphrin A5 Fc Chimera with a linear range of 0.08-5 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 under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Tris. 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. <ul style="list-style-type: none"> ● 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

EphA3, also known as Cek4, Mek4, Hek, Tyro4, and Hek4, is a 135 kDa glycosylated member of the transmembrane Eph receptor tyrosine kinase family. The A and B classes of Eph proteins are distinguished by Ephrin ligand binding preference but have a common structural organization. EphA3 preferentially binds to Ephrin-A5. Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression (1, 2). The 520 amino acid (aa) extracellular domain (ECD) of mouse EphA3 contains an N-terminal Ephrin binding region, a cysteine-rich region, and two fibronectin type II domains. The 419 aa cytoplasmic domain contains the tyrosine kinase domain and a sterile alpha motif (SAM) (3, 4). Within the ECD, mouse EphA3 shares 96% and 98% aa sequence identity with human and rat EphA3, respectively. Alternate splicing generates a secreted isoform that consists of nearly the entire ECD. EphA3 is expressed in the developing forebrain, retinal axons, some spinal cord motor neurons, and the heart where it plays an important role in axonal repulsion and organ morphogenesis (5 - 8). It is upregulated on some hematopoietic and solid tumor cells and on astrocytes surrounding injured nervous tissue (5, 9 - 11). EphA3 ligation inhibits cellular adhesion to fibronectin as well as cellular migration (9, 10). Transmembrane EphA3 associates *in cis* with ADAM10 which then promotes the cleavage *in trans* of Ephrin-A5 (12). It also associates *in cis* with Ephrin-A5 on retinal axons, thereby preventing the activation of EphA3 by Ephrin-A (13). Multiple tyrosine residues within the cytoplasmic region of EphA3 become phosphorylated during ligand-induced signaling (14, 15).

References:

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