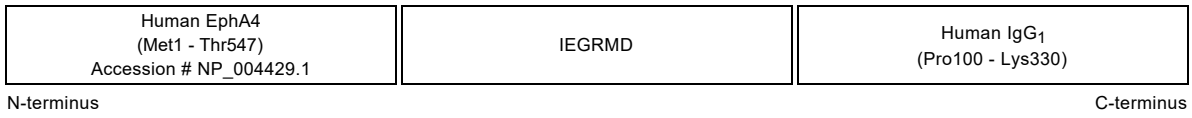
Recombinant Human EphA4 Fc Chimera

Catalog Number: 6827-A4

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived human EphA4 protein



N-terminal Sequence Analysis	Val20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	85 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	93-98 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human EphA4 Fc Chimera is coated at 2 µg/mL (100 µL/well), the concentration of biotinylayed Recombinant Human Ephrin-A5 Fc Chimera (Catalog # 374-EA) that produces 50% of the optimal binding response is found to be approximately 5-25 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, 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 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

EphA4, also known as Hek8, Tyro1, and Sek, is a 120 - 130 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. EphA4 is unusual in its ability to be activated by both Ephrin-A and -B molecules, although its interactions with Ephrin-B2 and -B3 are weaker than with Ephrin-A ligands (3, 4). Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression. The 528 amino acid (aa) extracellular domain (ECD) of human EphA4 contains an N-terminal Ephrin binding region, a cysteine-rich region, and two fibronectin type III domains (FnIII). The 417 aa cytoplasmic domain contains the tyrosine kinase domain and a sterile alpha motif (SAM) (5). Within the ECD, human EphA4 shares 98% aa sequence identity with mouse and rat EphA4. EphA4 is activated by interactions with Ephrin ligands, triggering a repulsive effect on neurite outgrowth (6, 7). This function is important for the accurate guidance and pathfinding of axons in the spiral ganglion of the cochlea, the anterior commissure, and the corticospinal tract (6 - 8). Neuronal EphA4 interactions with astrocyte-expressed Ephrins also plays a critical role in long term potentiation by regulating hippocampal neuron dendrite arborization, spine maturation, and function (9 - 11). The up-regulation of EphA4 in gastric carcinoma is negatively correlated with patient survival (12). In glioma, EphA4 associates with FGF R1, and this enhances FGF basic-induced tumor cell migration (13). EphA4 is also involved in morphogenesis of the thymic epithelium and T cell development (14).

References:

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