Recombinant Human EphB3 Fc Chimera

Catalog Number: 5667-B3

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Leu38-Ala550 Accession # P54753
N-terminal Sequence Analysis	Leu38
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	82.7 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	90-100 kDa under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized Recombinant Human EphB3 Fc Chimera at 2 µg/mL (100 µL/well) can bind recombinant mouse Ephrin-B1 Fc Chimera with a linear range of 0.04-2.5 ng/mL
Endotoxin Level	<0.01 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 200 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

EphB3, also known as Cek10, Tyro6, Sek4, Hek2, and Mdk5, is a 130 kDa 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. Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression (1). The 526 amino acid (aa) extracellular domain (ECD) of mature human EphB3 contains a ligand binding domain followed by a cysteine rich region and two fibronectin type III domains. The 418 aa cytoplasmic domain contains a tyrosine kinase domain, a sterile alpha motif (SAM), and a PDZ binding motif (2). Within the ECD, human EphB3 shares 96% aa sequence identity with mouse and rat EphB3. Binding of EphB3 to its ligands Ephrin-B1, B2, and B3 triggers forward signaling through EphB3 as well as reverse signaling through the Ephrin (1, 3). EphB3 also interacts *in cis* with the receptor tyrosine kinase Ryk (4). Activation of its kinase is required for some but not all of the effects of EphB3 on cellular adhesion, motility, and morphology (5). EphB3 is widely expressed during development and in the adult; it shows a complementary tissue distribution to the Ephrin-B ligands (6-9). EphB3 function is important in vascular, nervous system, thymocyte, and palate development (6, 7, 10-12). It directs embryonic neuronal axon pathfinding, and its up-regulation on local macrophages following neuronal injury promotes the growth of regenerating axons (10, 13). EphB3 inhibits colorectal carcinogenesis and invasion by preventing the migration of tumor cells out of the intestinal crypt (9, 14). In non-small cell lung cancer, however, it is up-regulated and can promote tumor progression (15). EphB3 function is supported by the cooperative action of EphB2 in several of these processes (6, 10-12, 16).

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