

## DESCRIPTION

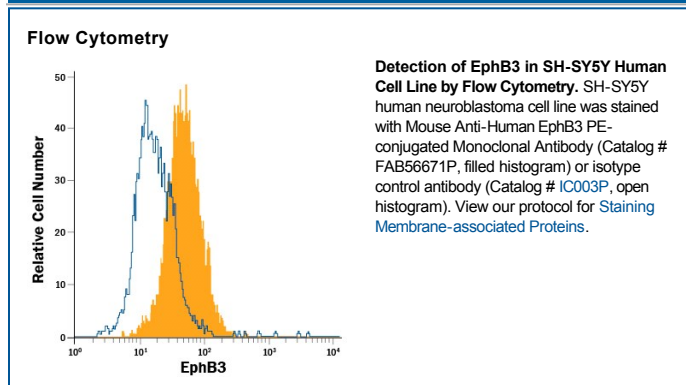
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human EphB3 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) EphA3, rhEphA4, EphB2, or recombinant mouse EphB3 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 647354
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human EphB3 Leu38-Ala550 Accession # P54753
<b>Conjugate</b>	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

EphB3 (Erythropoietin-producing Hepatocellular Carcinoma-3), also known as Cek10, Tyro6, Sek4, Hek2, and Mdk5, is a 110-130 kDa type I transmembrane glycoprotein member of the Ephrin receptor subfamily, tyrosine protein kinase family of molecules. The Eph proteins have an A and B class that are distinguished by Ephrin ligand binding preference and a common structural organization. Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and inflammation. 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. 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. EphB3 also interacts *in cis* with the receptor tyrosine kinase Ryk. Activation of its kinase domain is required for some but not all of the effects of EphB3 on cellular adhesion, motility, and morphology. EphB3 is widely expressed during development and in the adult where it shows a complementary tissue distribution to the Ephrin-B ligands. Cells known to express EphB3 constitutively or inducibly include Langerhans cells, osteoblasts, oligodendroglia, astrocytes, neural stem cell progenitors, cortical thymic epithelium, duodenal Brunner's gland epithelium and gastric parietal cells. EphB3 function is important in vascular, nervous system, thymocyte, and palate development. It directs embryonic neuronal axon pathfinding, and its upregulation on local macrophages following neuronal injury promotes the growth of regenerating axons. Notably, during pancreas development, EphB3 is reportedly a definitive biomarker for fetal islet precursor cells.