

**DESCRIPTION**

|               |   |        |   |
|---------------|---|--------|---|
| <b>Source</b> | Mouse myeloma cell line, NS0-derived                      |        |   |
|               | Mouse Ephrin-B1<br>(Lys30-Ser229)<br>Accession # AAA53231 | IEGRMD | Human IgG <sub>1</sub><br>(Pro100-Lys330) |
|               | N-terminus  |        | C-terminus                                |

**N-terminal Sequence** Lys30

**Analysis**

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 49.2 kDa (monomer)

**SPECIFICATIONS**

**SDS-PAGE** 60 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA. Immobilized recombinant mouse EphB3 Fc Chimera at 2 µg/mL (100 µL/well) can bind Recombinant Mouse Ephrin-B1 Fc Chimera with a linear range of 0.01-0.5 ng/mL.

**Endotoxin Level** <0.01 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 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**

Ephrin-B1, also known as Elk Ligand, LERK2, and Eplg2, is an approximately 45 kDa member of the Ephrin-B family of transmembrane ligands that bind and induce the tyrosine autophosphorylation of Eph receptors. The extracellular domains (ECD) of Ephrin-B ligands are structurally related to GPI-anchored Ephrin-A ligands. Eph-Ephrin interactions are widely involved in the regulation of cell migration, tissue morphogenesis, and cancer progression. Ephrin-B1 preferentially interacts with receptors in the EphB family. The binding of Ephrin-B1 to EphB proteins also triggers reverse signaling through Ephrin-B1 (1, 2). Mature mouse Ephrin-B1 consists of a 212 amino acid (aa) ECD, a 21 aa transmembrane segment, and an 88 aa cytoplasmic domain (3, 4). Within the ECD, mouse Ephrin-B1 shares 94% and 98% aa sequence identity with human and rat Ephrin-B1, respectively. Ligation by EphB2 enhances shedding of a 35 kDa fragment of the Ephrin-B1 ECD (5). The residual membrane-bound portion is then cleaved by gamma-secretase to release the intracellular domain (6). Ephrin-B1 also associates *in cis* with Claudin-1, -4, and -5 (7, 8). It is expressed on glomerular podocyte slit diaphragms, developing thymocytes, peripheral T cells, monocytes, macrophages, vascular endothelial cells, cardiomyocytes, osteoclasts, and luteinizing granulosa cells in the ovary (8-13). In the developing nervous system, Ephrin-B1 plays a role in cellular migration, axon guidance, and presynaptic development (14-16). It also regulates developing thymocyte survival, monocyte migration, osteoclast differentiation and function, cardiac muscle morphogenesis, and tumorigenesis (5, 8, 10-12). Ephrin-B1 is up-regulated on reactive astrocytes and on macrophages and T cells found in atherosclerotic plaques (11, 17).

**References:**

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