

**MONOCLONAL ANTIBODY TO
MOUSE EPHRIN TYPE-B RECEPTOR 4 (EPHB4)
clone VEB4-7E4**



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| Catalog nr | HM1099 (lot number and expiry date are indicated on the label) |
| Description | <p>The monoclonal antibody VEB4-7E4 recognizes mouse Ephrin type-B receptor 4 (EphB4), an ~110 kD protein. Erythropoietin-producing human hepatocellular carcinoma (Eph) receptors and ephrins are membrane proteins. They are classified into 2 broad subclasses, namely A and B, according to structural homologies and binding specificities. Eph receptors are tyrosine kinases, which autophosphorylate upon binding to their cognate ephrin ligands. Eph receptors and ephrins are frequently expressed in reciprocal patterns that correlate with cellular boundaries during embryonic development.</p> <p>The interaction between EphB4 and its ligand, Ephrin-B2, plays an important role in cell-cell, cell-extracellular matrix interactions as well as in cell migration, adhesion and proliferation. During the early stages of vascular development, EphB4 is specifically expressed in venous endothelium, whereas Ephrin-B2 is expressed in arterial endothelium. In mouse embryo's, EphB4 and Ephrin-B2 are essential for embryonic heart development and angiogenesis. In adult microcirculation, EphB4 is not a ubiquitous marker of arterial/venous polarity, but is expressed along both venules and arterioles.</p> <p>Furthermore, EphB4 is upregulated by endothelial cells along blind-ended capillary sprouts versus connecting capillaries. As such, EphB4 is thought to play a role in the patterning of new vessels during angiogenesis. EphB4 is also expressed in a variety of tumor cells, like gastrointestinal, prostate, bladder, breast, liver, lung and ovarian cancers, as well as leukemia, mesothelioma, malignant breast tumors and melanoma. Reduction of EphB4 activity accelerated tumorigenesis in colon and rectum. In head and neck squamous cell carcinoma and endometrial carcinoma, overexpression of EphB4 is inversely related to a poor prognosis. However, in mesothelioma, up-regulation of EphB4 resulted in growth of the tumor. Besides the essential expression of EphB4, coexpression of other EphB4 family members or EphB-ligands may affect tumor cell viability and proliferation as well.</p> <p>The monoclonal antibody VEB4-7E4 marks venous endothelial cells, but not arterial endothelial cells in B16 melanoma cells.</p> |
| Aliases | Tyrosine-protein kinase receptor HTK |
| Species | Rat IgG _{2a} |
| Formulation | 1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide. |
| Application | The monoclonal antibody VEB4-7E4 can be used for flow cytometry, immunohistology on frozen sections and immunofluorescence. Furthermore, the monoclonal antibody VEB4-7E4 is useful for immuno assay and Western blotting. |
| Use | For immunohistology, flow cytometry, immunofluorescence and Western blotting dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. |
| Storage and stability | Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year. |
| Precautions | For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and Federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result with the use or derivation of this product. |
| References | 1. Huang, X et al; EphB4 overexpression in B16 melanoma cells affects arterial-venous patterning in tumor angiogenesis. <i>Cancer Res</i> 2007, 67: 9800 |
| Also available | HM1013 Monoclonal antibody against Mouse PECAM-1 (CD31), clone MEC7.46 HM1015 Monoclonal antibody against Mouse CD34, clone MEC14.7 HM1057 Monoclonal antibody against Mouse JAM-C, clone CRAM-18 F26 HM1084 Monoclonal antibody against Mouse PECAM-1 (CD31), clone ER-MP12 HM1094 Monoclonal antibody against Mouse VAP-1, clone 7-88 |