OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for AM26310PU-N

Ephb4 Rat Monoclonal Antibody [Clone ID: VEB4-7E4]

Product data:

Product Type:	Primary Antibodies
Clone Name:	VEB4-7E4
Applications:	ELISA, IF, IHC, WB
Recommended Dilution:	Immunohistochemistry on frozen sections: The typical starting working dilution is 1:50. Flow cytometry: The typical starting working dilution is 1:50. Immunoassays. Immunoflourescence: The typical starting working dilution is 1:50. Western blot: The typical starting working dilution is 1:50.
Reactivity:	Mouse
Host:	Rat
Isotype:	IgG2a
Clonality:	Monoclonal
Specificity:	The monoclonal antibody VEB4-7E4 recognizes mouse Ephrin type-B receptor 4 (EphB4), an ~110 kD protein. It marks venous endothelial cells, but not arterial endothelial cells in B16 melanoma cells.
Formulation:	PBS State: Purified State: Liquid 0.2 µm filtered Ig fraction Stabilizer: 0.1% bovine serum albumin Preservative: 0.02% sodium azide
Concentration:	lot specific
Conjugation:	Unconjugated
Storage:	Store at 2 - 8 °C.
Stability:	Shelf life: one year from despatch.
Gene Name:	Eph receptor B4
Database Link:	Entrez Gene 13846 Mouse P54761

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Background:

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.
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.
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.

Synonyms:

Ephrin type-B receptor 4, HTK, TYRO11