abcam

ab106130

Anti-Eph receptor B4/HTK antibody [VEB4-7E4]

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Clone number	VEB4-7E4
Purification technique	Affinity purification Protein G
Specificity	ab106130 marks venous endothelial cells, but not arterial endothelial cells in B16 melanoma cells.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	0.2 µm filtered antibody solution

Reactivity data

Flow Cyt

Expected

Species	Mouse
Dilution info	-
Notes	ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

ELISA

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information EPHB4

Function Receptor tyrosine kinase which binds promiscuously transmembrane ephrin-B family ligands residing on adjacent cells, leading to contact-dependent bidirectional signaling into neighboring cells. The signaling pathway downstream

of the receptor is referred to as forward signaling while the signaling pathway downstream of the ephrin ligand is referred to as reverse signaling. Together with its cognate ligand/functional ligand EFNB2 it is involved in the regulation of cell adhesion and migration, and plays a central role in heart morphogenesis, angiogenesis and blood vessel remodeling and permeability. EPHB4-mediated forward signaling controls cellular repulsion and segregation from EFNB2-expressing cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Eph receptor B4 also known as EphB4 or HTK is a protein belonging to the Ephrin receptor subfamily of receptor tyrosine kinases. The receptor has a molecular weight of about 120 kDa. EphB4 typically interacts with its binding partner ephrin-B2 facilitating bidirectional signaling. These complexes reside in the cell membrane and are mainly found in vascular endothelial cells and various tissues including the heart lungs and skin. Notably this receptor plays a role in cellular processes like cell migration and adhesion.
Biological function summary	The Eph receptor B4 is a significant regulator of angiogenesis and vascular development. It forms a critical component of a signaling complex that also includes ephrin-B2. During embryonic development EphB4's interaction with ephrin-B2 guides the proper formation and organization of blood vessels. In adult organisms it remains active in maintaining vascular homeostasis. Additionally this receptor impacts neuronal development and repair through modulating axon guidance and synaptic plasticity.
Pathways	EphB4 engages in various cellular signaling cascades. It features prominently within pathways governing angiogenesis and cell adhesion. EphB4 acts as a central player in the VEGF signaling pathway modulating endothelial cell behavior. The protein’s pathways frequently intersect with other proteins such as FAK and Src influencing cell motility and morphology. Furthermore in the ephrin receptor pathway it cross-talks with other Eph receptors like EphA4 assisting in diverse biological functions.

Associated diseases and disorders	Abnormal Eph receptor B4 activity associates with several pathological conditions. Dysregulation often links to cancer due to its role in neovascularization and tumor progression. Overexpression of EphB4 in tumors like breast and colorectal cancer suggests a contribution to malignancy by supporting angiogenesis and tumor growth. In vascular disorders impaired EphB4-ephrin-B2 signaling may lead to defects in blood vessel formation. Additionally alterations in this receptor are observed in neurological diseases such as Alzheimer's where EphB4 interacts with tau protein-modifying vascular and neuronal deficiencies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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