abcam

ab51496

Anti-VEGF Receptor 3 antibody [MM0003-7G63]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human FLT4. The exact immunogen used to generate this antibody is proprietary information. Database link P35916
Carrier free	Yes
Clone number	MM0003-7G63
Purification technique	Affinity purification Protein G
Specificity	No cross-reactivity is shown with VEGFR1 or VEGFR2.
Concentration	0.2 - 1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information FLT4

Function

Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFC and VEGFD, and plays an essential role in adult lymphangiogenesis and in the development of the vascular network and the cardiovascular system during embryonic development. Promotes proliferation, survival and migration of endothelial cells, and regulates angiogenic sprouting. Signaling by activated FLT4 leads to enhanced production of VEGFC, and to a lesser degree VEGFA, thereby creating a positive feedback loop that enhances FLT4 signaling. Modulates KDR signaling by forming heterodimers. The secreted isoform 3 may function as a decoy receptor for VEGFC and/or VEGFD and play an important role as a negative regulator of VEGFC-mediated lymphangiogenesis and angiogenesis. Binding of vascular growth factors to isoform 1 or isoform 2 leads to the activation of several signaling cascades; isoform 2 seems to be less efficient in signal transduction, because it has a truncated C-terminus and therefore lacks several phosphorylation sites. Mediates activation of the MAPK1/ERK2, MAPK3/ERK1 signaling pathway, of MAPK8 and the JUN signaling pathway, and of the AKT1 signaling pathway. Phosphorylates SHC1. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase. Promotes phosphorylation of MAPK8 at 'Thr-183' and 'Tyr-185', and of AKT1 at 'Ser-473'.

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	VEGF Receptor 3 also known as FLT-4 is a protein essential for lymphatic development and is expressed mainly in lymphatic endothelial cells. This receptor has a molecular mass of approximately 195 kDa. VEGF Receptor 3 belongs to the tyrosine kinase family and binds with high affinity to its ligands VEGF-C and VEGF-D. These interactions lead to the activation of intracellular signaling cascades that promote cell proliferation migration and survival.
Biological function summary	The VEGF Receptor 3 acts as an important regulator of lymphangiogenesis which is the growth of new lymphatic vessels from pre-existing ones. It is not typically part of larger protein complexes but it works closely with its ligands to facilitate the processes associated with lymph vessel formation and function. Proper activity of VEGF Receptor 3 is necessary for maintaining normal lymphatic vessel remodeling and function during development and in some adult tissues.
Pathways	The receptor is involved in the VEGF signaling pathway which plays an important role in vascular and lymphatic development. This pathway intersects with others like the PI3K/AKT pathway a critical mediator of cell growth and survival. VEGF Receptor 3 interacts with related receptors such as VEGF Receptor 2 in these pathways to regulate complex and essential physiological processes.
Associated diseases and disorders	VEGF Receptor 3 has been linked to lymphedema which is swelling due to lymphatic system dysfunction and certain cancers where excessive angiogenesis occurs. Mutations or dysregulations in the receptor's signaling can lead to these conditions. In cancer for instance VEGF Receptor 3 along with its associated protein VEGF-C can promote tumor lymphangiogenesis facilitating metastasis. Antagonists like anti-VEGF therapies target these receptors to inhibit tumor progression and manage these disorders.

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.

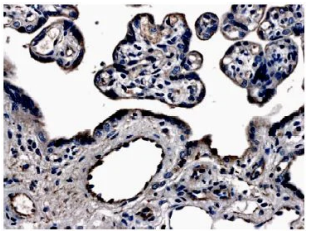
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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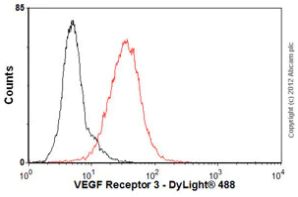
2 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VEGF Receptor 3 antibody [MM0003-7G63] (ab51496)

VEGF Receptor 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-VEGF Receptor 3 antibody

ab51496 at 1/200 dilution staining VEGF Receptor 3 in human placenta tissue section by Immunohistochemistry (Formalin/PFA fixed paraffin-embedded sections).



Flow Cytometry - Anti-VEGF Receptor 3 antibody [MM0003-7G63] (ab51496)

VEGF Receptor 3 Flow Cytometry staining using mouse Anti-VEGF Receptor 3 antibody

Overlay histogram showing HeLa cells stained with ab51496 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab51496, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.