

Anti-VEGF Receptor 2 Picoband Antibody
Catalog # ABO12900**Specification**

Anti-VEGF Receptor 2 Picoband Antibody - Product Information

Application	WB, IHC-P, E
Primary Accession	P35918
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for VEGF Receptor 2 detection. Tested with WB, IHC-P, ELISA(Cap) in Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-VEGF Receptor 2 Picoband Antibody - Additional Information

Gene ID 16542

Other Names

Vascular endothelial growth factor receptor 2, VEGFR-2, 2.7.10.1, Fetal liver kinase 1, FLK-1, Kinase NYK, Protein-tyrosine kinase receptor flk-1, CD309, Kdr, Flk-1, Flk1

Application Details

Western blot, 0.1-0.5 µg/ml

 Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml

 ELISA(Cap), 0.1-0.5 µg/ml

Subcellular Localization

Cell junction.

Tissue Specificity

Expressed in endothelial cells (at protein level). Detected in embryonic endothelial cells, as well as hematopoietic stem and progenitor cells. Detected in vascular endothelium. Expressed at high levels in adult heart, lung, kidney, brain and skeletal muscle, but is also expressed at lower levels in most other adult tissues.

Contents

Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg NaN₃.

Immunogen

E. coli-derived mouse VEGF Receptor 2 recombinant protein (Position: A20-L244).

Cross Reactivity

No cross reactivity with other proteins.

Storage

At -20°C; for one year. After reconstitution, at 4°C; for one month. It can also be aliquotted and stored frozen at -20°C; for a longer time. Avoid repeated freezing and thawing.

Anti-VEGF Receptor 2 Picoband Antibody - Protein Information

Name Kdr {ECO:0000312|MGI:MGI:96683}

Synonyms Flk-1, Flk1

Function

Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of angiogenesis, vascular development, vascular permeability, and embryonic hematopoiesis. Promotes proliferation, survival, migration and differentiation of endothelial cells. Promotes reorganization of the actin cytoskeleton. Isoforms lacking a transmembrane domain, such as isoform 2, may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Isoform 2 plays an important role as a negative regulator of VEGFA- and VEGFC-mediated lymphangiogenesis by limiting the amount of free VEGFA and/or VEGFC and by preventing their binding to FLT4. Modulates FLT1 and FLT4 signaling by forming heterodimers. Binding of vascular growth factors to isoform 1 leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5- trisphosphate and the activation of protein kinase C. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, reorganization of the actin cytoskeleton and activation of PTK2/FAK1. Required for VEGFA-mediated induction of NOS2 and NOS3, leading to the production of the signaling molecule nitric oxide (NO) by endothelial cells. Phosphorylates PLCG1. Promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1 and SRC.

Cellular Location

Cell junction. Endoplasmic reticulum {ECO:0000250|UniProtKB:P35968}. Cell membrane {ECO:0000250|UniProtKB:P35968}. Note=Colocalizes with ERN1 and XBP1 in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (By similarity) Localized with RAP1A at cell-cell junctions {ECO:0000250|UniProtKB:P35968} [Isoform 2]: Secreted.

Tissue Location

Expressed in endothelial cells (at protein level). Detected in embryonic endothelial cells, as well as hematopoietic stem and progenitor cells. Detected in vascular endothelium. Expressed at high levels in adult heart, lung, kidney, brain and skeletal muscle, but is also expressed at lower levels in most other adult tissues

Anti-VEGF Receptor 2 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-VEGF Receptor 2 Picoband Antibody - Images

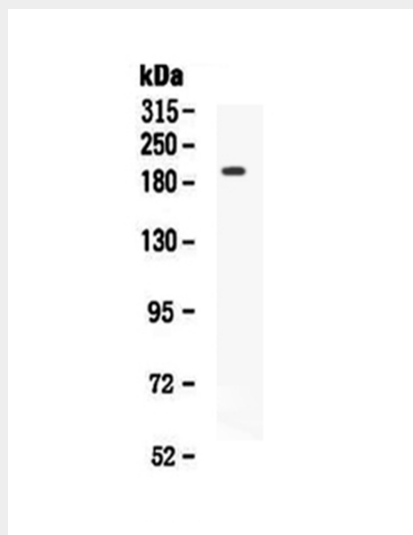


Figure 1. Western blot analysis of VEGF Receptor 2 using anti-VEGF Receptor 2 antibody (ABO12900). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. Lane 1: Recombinant mouse VEGFR2 Protein 1ng. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-VEGF Receptor 2 antigen affinity purified polyclonal antibody (Catalog # ABO12900) at 0.5 μ g/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for VEGF Receptor 2 at approximately 166-200KD. The expected band size for VEGF Receptor 2 is at 153KD.

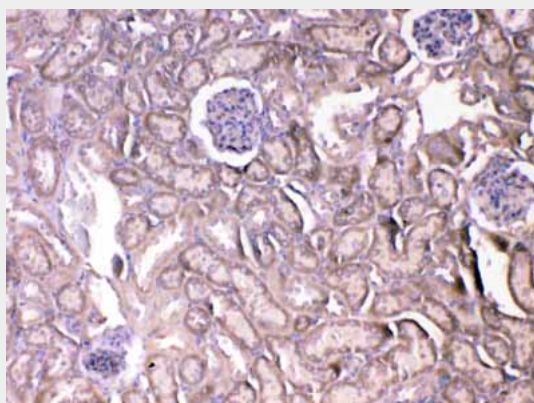


Figure 2. IHC analysis of VEGF Receptor 2 using anti-VEGF Receptor 2 antibody (ABO12900). VEGF Receptor 2 was detected in paraffin-embedded section of mouse kidney tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-VEGF Receptor 2 Antibody (ABO12900) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

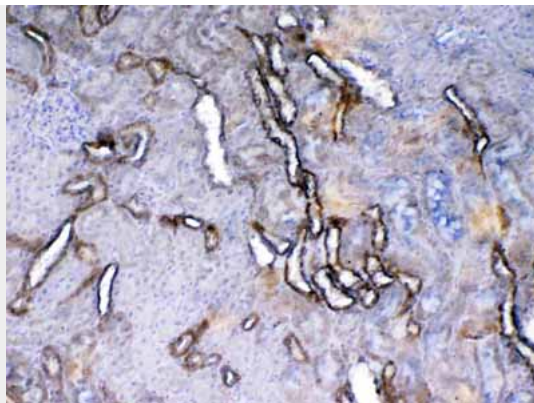


Figure 3. IHC analysis of VEGF Receptor 2 using anti-VEGF Receptor 2 antibody (ABO12900). VEGF Receptor 2 was detected in paraffin-embedded section of rat kidney tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-VEGF Receptor 2 Antibody (ABO12900) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Anti-VEGF Receptor 2 Picoband Antibody - Background

KDR (Kinase Insert Domain Receptor), also known as FLK1, VEGFR or VEGFR2, is a VEGF receptor. KDR is the human gene encoding it. Vascular endothelial growth factor (VEGF) is the only mitogen that specifically acts on endothelial cells. Its expression is upregulated by hypoxia, and its cell-surface receptor, known as fetal liver kinase-1 (Flk1) in mouse, is exclusively expressed in endothelial cells. Flk1 is the mouse homolog of KDR.