Anti-Human VEGF Receptor 2 Antibody [PSH12-83] - BSA and Azide free (Capture)

HA725121

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Clone number:	PSH12-83

Description: 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 and isoform 3, may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Isoform 2 plays an important role as negative regulator of VEGFA- and VEGFC-mediated lymphangiogenesis by limiting the amount of free VEGFA and/or VEGFC and 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.

Immunogen:	Recombinant protein within Human VEGF Receptor 2 aa 20-764 (HA211025).
Positive control:	Recombinant Human VEGF Receptor 2 protein (HA211025).
Subcellular location:	Cell junction, Endoplasmic reticulum, Cell membrane.
Database links:	SwissProt: P35968 Human
Recommended Dilutions:	
ELISA(Cap)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH12-84] to Human VEGF Receptor 2 antibody (Detector) (HA725122) and Recombinant Human VEGF Receptor 2 protein (HA211025) as the standard. The reference range value is 62.5-8,000 pg/mL.
Storage Buffer:	PBS (pH7.4).
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

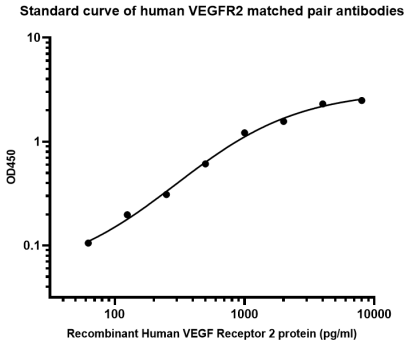

Fig1: Sandwich ELISA analysis of Human VEGF Receptor 2 matched pair antibodies

Capture: HA725121, Human VEGF Receptor 2 Rabbit mAb [PSH12-83]
Detector: HA725122, Human VEGF Receptor 2 Rabbit mAb [PSH12-84]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA725121) diluted in carbonate/bicarbonate buffer, at a concentration of 5 µg/mL overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human VEGF Receptor 2 protein (HA211025) starting from 8,000 pg/ml to 0 pg/ml and detect antibody (HA725122, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

Background References

1. Chen L et al. ARL13B promotes angiogenesis and glioma growth by activating VEGFA-VEGFR2 signaling. Neuro Oncol. 2023 May
2. Zhuang T et al. A2AR-mediated lymphangiogenesis via VEGFR2 signaling prevents salt-sensitive hypertension. Eur Heart J. 2023 Aug