Anti-human endogenous soluble VEGFR-1/Flt-1

20140401BB

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	**102-PA21**
Size:	200 µg
Lot. No.:	According to product label
Country of origin:	Germany

Preparation: Produced from sera of rabbits pre-immunized with a peptide consisting of the unique C-terminal end of esFlt-1: GEHC NKKAVFSRISKFKSTRNDSTTQSNVKH.

Target Background

Synonyms:	Fms-like tyrosine kinase 1, Vascular permeability factor receptor

Recombinant human soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1) is the naturally occurring form and was cloned from total RNA of human umbilical vein endothelial cells.
The recombinant mature sVEGFR-1 is a glycosylated monomeric protein with a mass of approximately 96kDa. The soluble receptor protein consists of the first 6 extracellular domains (Met1-His688) containing the unique 31 amino acids residues at the C-terminus. Endothelial cells express three different vascular endothelial growth factor (VEGF) receptors, belonging to the family of receptor tyrosine kinases (RTKs). They are named VEGFR-1 (Flt-1), VEGFR-2 (KDR/Flk-1), and VEGFR-3 (Flt-4). Their expression is almost exclusively restricted to endothelial cells, but VEGFR-1 can also be found on monocytes, dendritic cells and on trophoblast cells. The flt-1 gene was first described in 1990. The receptor contains seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. Compared to VEGFR-2 the Flt-1 receptor has a higher affinity for VEGF but a weaker signaling activity. VEGFR-1 thus leads not to proliferation of endothelial cells, but mediates signals for differentiation. Interestingly, a naturally occurring soluble variant of VEGFR-1 (sVEGFR-1) was found in HUVEC supernatants in 1996, which is generated by alternative splicing of the flt-1 mRNA.
The biological functions of sVEGFR-1 still are not clear, but it seems to be an endogenous regulator of angiogenesis binding VEGF with the same affinity as the full-length receptor.

References

1. . Barleon et al., 1997, J Biol Chem 272:10382-8
2. Röckl et al., 1998, Exp Cell Res, 241: 161-170].

Database References Antigen

Protein RefSeq:	NP_001153392
Uniprot ID:	P17948.2
mRNA RefSeq:	NM_0001159920

Product Specifications

Species reactivity	human
Clone/Ab feature	Rabbit IgG
Cross reactivity	**Specific for human esFlt-1!**
Host	rabbit
Clonality	polyclonal
Purification	Protein A purified
Immunogen	Peptide: GEHCNKKAVFSRISKFKSTRNDSTTQSNVKH.
Formulation	lyophilized
Buffer	PBS

Stability: The lyophilized antibody is stable at room temperature for up to 1 month. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C.

Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.

AVOID REPEATED FREEZE AND THAW CYCLES!

Applications

Western Blot:	Use at 1-5 µg/ml
IF/IHC:	Use at 1-5 µg/ml (IF)

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!

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Handling/Applications

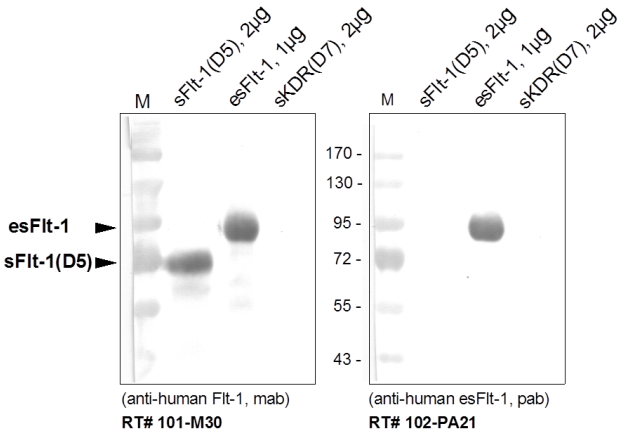

Figure 1. Western Analysis of anti-human esFlt-1. Samples were loaded in 10% SDS-polyacrylamide gel under reducing conditions. Left panel: monoclonal antibody against Flt-1; Right panel: polyclonal antibody (peptide) against the unique C-terminal end of esFlt-1.

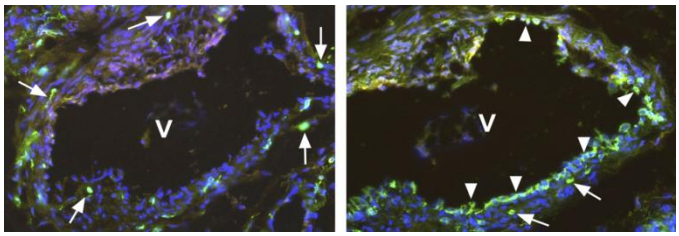

Figure 2: Immunofluorescence staining (green) of two neighboring sections of a human vein (V), located near a hemangioma. The antibody against the soluble VEGFR-1/Flt-1 marked single cells (arrows) within the media and adventitia of the vein. The antibody against the membrane-bound VEGFR-1/Flt-1 marked single cells (arrows) and the endothelium (arrowhead) of the vein. Cell nuclei are stained with Dapi (blue).

Provided by Prof. J. Wilting, Göttingen, Germany.