PRODUCT INFORMATION

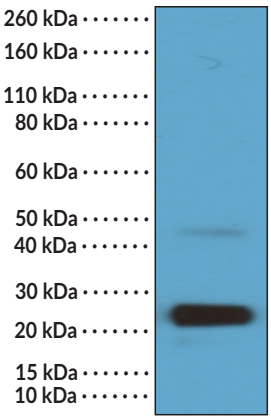
VEGF-A (C-Term) Rabbit Monoclonal Antibody (RM391)

Item No. 32323

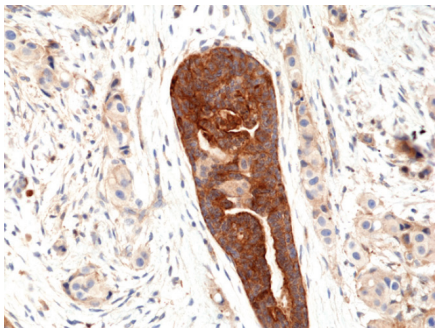
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Vascular Endothelial Growth Factor A, Vascular Permeability Factor, VEGF
Immunogen:	Peptide from the C-terminal region of human VEGF-A
Cross Reactivity:	(+) VEGF-A
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM391
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC and WB is 1:100-1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

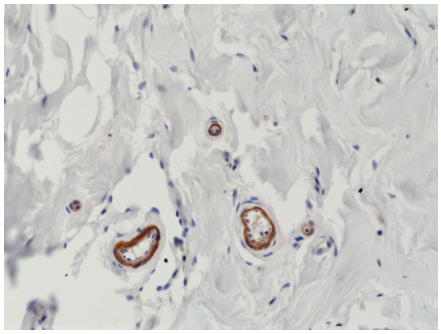
Images



WB of human VEGF recombinant protein produced in HEK293 cells using VEGF-A (C-Term) Rabbit Monoclonal Antibody (RM391) at a dilution of 1:200.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer tissue using VEGF-A (C-Term) Rabbit Monoclonal Antibody (RM391) at a 1:100 dilution.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast tissue using VEGF-A (C-Term) Rabbit Monoclonal Antibody (RM391) at a 1:200 dilution.

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Description

VEGF-A is a member of the PDGF/VEGF family of growth factors that regulates development, proliferation, and maintenance of the vascular system.[1] Alternative splicing of *Vegfa* pre-mRNA generates two families of variants, pro-angiogenic VEGF-A_{xxx} and anti-angiogenic VEGF-A_{xxxb} isoforms, where xxx indicates the number of amino acids in the mature protein.[2,3] VEGF-A exists as a secreted or membrane-bound homodimer composed of an N-terminal signal peptide, which is cleaved in the mature protein, a central VEGF homology domain containing the receptor-binding region, and a variable C-terminal domain containing heparin- or neuropilin-binding sites.[1] It is secreted by numerous cell types, including endothelial cells, fibroblasts, smooth muscle cells, platelets, macrophages, and neutrophils, and is induced by inflammation or hypoxia. VEGF-A binds to VEGFR1 and VEGFR2, which are expressed by endothelial cells, to regulate angiogenesis and vascular permeability, as well as cell proliferation, survival, and migration, in an isoform-dependent manner. *VEGFA* SNPs have been found in patients with a variety of cancers, including breast, prostate, or colorectal cancers.[2] Cayman's VEGF-A (C-Term) Rabbit Monoclonal Antibody (RM391) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Shibuya, M. Vascular endothelial growth factor (VEGF) and its receptor (VEGFR) signaling in angiogenesis: A crucial target for anti- and pro-angiogenic therapies. *Genes Cancer* **2(12)**, 1097-1105 (2011).
2. Canavese, M., Ngo, D.T.M., Maddern, G.J., *et al.* Biology and therapeutic implications of VEGF-A splice isoforms and single-nucleotide polymorphisms in colorectal cancer. *Int. J. Cancer* **140(10)**, 2183-2191 (2017).
3. Harper, S.J. and Bates, D.O. VEGF-A splicing: The key to anti-angiogenic therapeutics? *Nat. Rev. Cancer* **8(11)**, 880-887 (2008).
4. Peach, C.J., Mignone, V.W., Arruda, M.A., *et al.* Molecular pharmacology of VEGF-A isoforms: Binding and signalling at VEGFR2. *Int. J. Mol. Sci.* **19(4)**, 1264 (2018).

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