PRODUCT INFORMATION

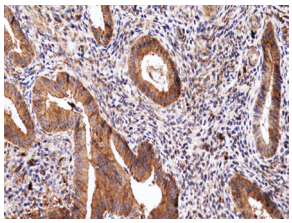
PTEN Rabbit Monoclonal Antibody (Clone RM511)

Item No. 42778

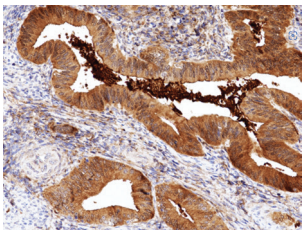
Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	MMAC1, Mutated in Multiple Advanced Cancers 1, Phosphatase and Tensin Homolog, TEP1
Immunogen:	A peptide corresponding to residues at the C-terminus of human PTEN
Cross Reactivity:	(+) PTEN
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:	RM511
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry; the recommended starting concentration is 1:100-1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

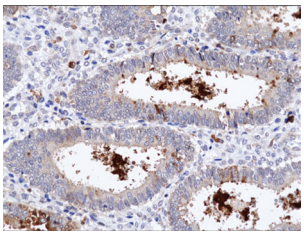
Images



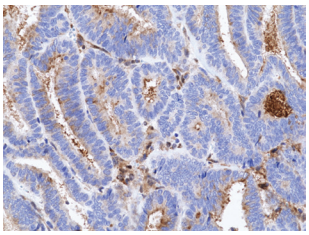
Immunohistochemical staining of formalin-fixed and paraffin-embedded human endometrium (proliferative) tissue section using PTEN Rabbit Monoclonal Antibody (Clone RM511) at a 1:100 dilution for one hour at room temperature.



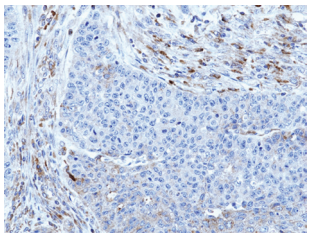
Immunohistochemical staining of formalin-fixed and paraffin-embedded human endometrium (secretory) tissue section using PTEN Rabbit Monoclonal Antibody (Clone RM511) at a 1:100 dilution for one hour at room temperature.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human endometrium neoplasia (Stage IA) tissue section using PTEN Rabbit Monoclonal Antibody (Clone RM511) at a 1:100 dilution for one hour at room temperature.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human endometrium adenocarcinoma (Stage IB) tissue section using PTEN Rabbit Monoclonal Antibody (Clone RM511) at a 1:100 dilution for one hour at room temperature.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human endometrium adenocarcinoma (Stage III) tissue section using PTEN Rabbit Monoclonal Antibody (Clone RM511) at a 1:100 dilution for one hour at room temperature.

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PRODUCT INFORMATION

Description

Phosphatase and tensin homolog (PTEN) is a tumor suppressor with roles in cell division, cell migration, and apoptosis.[1-4] It is ubiquitously expressed and localized to the cytosol and nucleus where it dephosphorylates phosphatidylinositol-(3,4,5)-triphosphate (PIP_3) to phosphatidylinositol-(3,4)-diphosphate (PIP_2) to antagonize PI3K signaling and regulates spliceosome assembly and pre-mRNA splicing, respectively.[2] PTEN inhibits cell cycle progression and induces apoptosis, as well as inhibits cell adhesion and migration *in vitro*.[5] *PTEN* deletions have been found in various cancers, including glioblastomas and prostate, breast, and kidney cells. Germline mutations in *PTEN* induce a variety of syndromes, including Cowden, Bannayan-Riley-Ruvalcaba, Proteus, and Proteus-like syndromes, which are characterized by increased risk of cancers, developmental delays, autism spectrum disorders, and macroencephaly.[4] Cayman's PTEN Rabbit Monoclonal Antibody (Clone RM511) can be used for immunohistochemistry (IHC).

References

1. Di Cristofano, A. and Pandolfi, P.P. The multiple roles of PTEN in tumor suppression. *Cell* **100(4),** 387-390 (2000).
2. Liang, H. and Yin, Y. Multiple roles of PTEN isoforms PTENα and PTENβ in cellular activities and tumor development. *Sci. China Life Sci.* **62(12),** 1722-1724 (2019).
3. Boossani, C.S., Gunasekar, P., and Agrawal, D.K. An update on PTEN modulators - a patent review. *Expert Opin. Ther. Pat.* **29(11),** 881-889 (2019).
4. Nunes-Santos, C.J., Uzel, G., and Rosenzweig, S.D. PI3K pathway defects leading to immunodeficiency and immune dysregulation. *J. Allergy Clin. Immunol.* **143(5),** 1676-1687 (2019).
5. Dahia, P.L.M. PTEN, a unique tumor suppressor gene. *Endocr. Relat. Cancer* **7(2),** 115-129 (2000).

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