



### Anti-PTEN antibody [A2b1] ab79156

[1 Abreviews](#) [20 References](#) [画像数 3](#)

#### 製品の概要

製品名	Anti-PTEN antibody [A2b1]
製品の詳細	Mouse monoclonal [A2b1] to PTEN
由来種	Mouse
特異性	ab79156 recognizes PTEN and is specific for the C terminus. Antibody specificity has been confirmed by peptide blocking studies.
アプリケーション	<b>適用あり:</b> Flow Cyt, IHC-Fr <b>適用なし:</b> IHC-P
種交差性	<b>交差種:</b> Human
免疫原	Synthetic peptide: ENEPFDEDGHTQI , corresponding to C terminal amino acids 387-399 of Human PTEN  <b>Run BLAST with</b>  <b>Run BLAST with</b>
ポジティブ・コントロール	IHC: Human breast tumor tissue. Prostate tissue does not stain. WB: Reactivity with human fibroblasts, breast epithelial and lung cancer cell lines has been confirmed. This antibody gave a positive result when used in the following methanol fixed cell lines: MCF-7.
特記事項	<p>This product was changed from ascites to tissue culture supernatant on 17 May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### 製品の特性

製品の状態	Liquid
保存方法	Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle.
バッファー	pH: 7.60

	Preservative: 0.1% Sodium azide Constituents: 1.45% Sodium chloride, 0.3% Sodium phosphate
精製度	Tissue culture supernatant
特記事項(精製)	Purified from TCS.
ポリモノ	モノクローナル
クローン名	A2b1
アイソタイプ	IgG1

## アプリケーション

The Abpromise guarantee **Abpromise保証は、次のテスト済みアプリケーションにおけるab79156の使用に適用されます**  
アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご確認ください。

アプリケーション	Abreviews	特記事項
Flow Cyt		Use at an assay dependent concentration.
IHC-Fr		Use at an assay dependent concentration. Acetone fixed, fresh frozen tissue on glass slides.

追加情報 Is unsuitable for IHC-P.

## ターゲット情報

機能	<p>Tumor suppressor. Acts as a dual-specificity protein phosphatase, dephosphorylating tyrosine-, serine- and threonine-phosphorylated proteins. Also acts as a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate, phosphatidylinositol 3,4-diphosphate, phosphatidylinositol 3-phosphate and inositol 1,3,4,5-tetrakisphosphate with order of substrate preference in vitro <math>\text{PtdIns}(3,4,5)\text{P}_3 &gt; \text{PtdIns}(3,4)\text{P}_2 &gt; \text{PtdIns}3\text{P} &gt; \text{Ins}(1,3,4,5)\text{P}_4</math>. The lipid phosphatase activity is critical for its tumor suppressor function. Antagonizes the PI3K-AKT/PKB signaling pathway by dephosphorylating phosphoinositides and thereby modulating cell cycle progression and cell survival. The unphosphorylated form cooperates with AIP1 to suppress AKT1 activation. Dephosphorylates tyrosine-phosphorylated focal adhesion kinase and inhibits cell migration and integrin-mediated cell spreading and focal adhesion formation. Plays a role as a key modulator of the AKT-mTOR signaling pathway controlling the tempo of the process of newborn neurons integration during adult neurogenesis, including correct neuron positioning, dendritic development and synapse formation. May be a negative regulator of insulin signaling and glucose metabolism in adipose tissue. The nuclear monoubiquitinated form possesses greater apoptotic potential, whereas the cytoplasmic nonubiquitinated form induces less tumor suppressive ability. In motile cells, suppresses the formation of lateral pseudopods and thereby promotes cell polarization and directed movement.</p> <p>Isoform alpha: Functional kinase, like isoform 1 it antagonizes the PI3K-AKT/PKB signaling pathway. Plays a role in mitochondrial energetic metabolism by promoting COX activity and ATP production, via collaboration with isoform 1 in increasing protein levels of PINK1.</p>
組織特異性	Expressed at a relatively high level in all adult tissues, including heart, brain, placenta, lung, liver, muscle, kidney and pancreas.
関連疾患	Cowden syndrome 1

Lhermitte-Duclos disease  
Bannayan-Riley-Ruvalcaba syndrome  
Squamous cell carcinoma of the head and neck  
Endometrial cancer  
PTEN mutations are found in a subset of patients with Proteus syndrome, a genetically heterogeneous condition. The molecular diagnosis of PTEN mutation positive cases classifies Proteus syndrome patients as part of the PTEN hamartoma syndrome spectrum. As such, patients surviving the early years of Proteus syndrome are likely at a greater risk of developing malignancies.  
Glioma 2  
VACTERL association with hydrocephalus  
Prostate cancer  
Macrocephaly/autism syndrome  
A microdeletion of chromosome 10q23 involving BMPR1A and PTEN is a cause of chromosome 10q23 deletion syndrome, which shows overlapping features of the following three disorders: Bannayan-Zonana syndrome, Cowden disease and juvenile polyposis syndrome.

#### 配列類似性

Contains 1 C2 tensin-type domain.  
Contains 1 phosphatase tensin-type domain.

#### ドメイン

The C2 domain binds phospholipid membranes in vitro in a  $\text{Ca}^{2+}$ -independent manner; this binding is important for its tumor suppressor function.

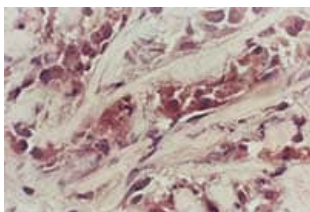
#### 翻訳後修飾

Constitutively phosphorylated by CK2 under normal conditions. Phosphorylated in vitro by MAST1, MAST2, MAST3 and STK11. Phosphorylation results in an inhibited activity towards PIP3. Phosphorylation can both inhibit or promote PDZ-binding. Phosphorylation at Tyr-336 by FRK/PTK5 protects this protein from ubiquitin-mediated degradation probably by inhibiting its binding to NEDD4. Phosphorylation by ROCK1 is essential for its stability and activity. Phosphorylation by PLK3 promotes its stability and prevents its degradation by the proteasome. Monoubiquitinated; monoubiquitination is increased in presence of retinoic acid. Deubiquitinated by USP7; leading to its nuclear exclusion. Monoubiquitination of one of either Lys-13 and Lys-289 amino acid is sufficient to modulate PTEN compartmentalization. Ubiquitinated by XIAP/BIRC4.

#### 細胞内局在

Secreted. May be secreted via a classical signal peptide and reenter into cells with the help of a poly-Arg motif and Cytoplasm. Nucleus. Nucleus, PML body. Monoubiquitinated form is nuclear. Nonubiquitinated form is cytoplasmic. Colocalized with PML and USP7 in PML nuclear bodies. XIAP/BIRC4 promotes its nuclear localization.

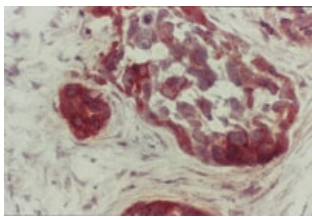
#### 画像



Immunohistochemistry (Frozen sections) - Anti-PTEN antibody [A2b1] (ab79156)

ab79156, at 1/20 dilution, staining PTEN in frozen human breast tumor tissue sections by Immunohistochemistry. The reddish brown staining in the cytoplasm is indicative of the presence of PTEN protein in these cells. The nuclei appear purple and are negative for antibody staining. Interstitial tissue is negative as well.

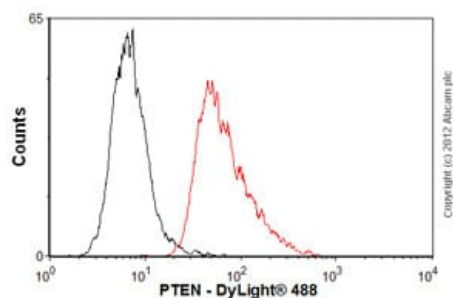
This image was generated using the ascites version of the product.



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Flow Cytometry - Anti-PTEN antibody [A2b1] (ab79156)

Overlay histogram showing MCF7 cells stained with ab79156 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab79156, 1µg/1x10<sup>6</sup> cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) ([ab96879](#)) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] ([ab91353](#), 2µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >5,000 events was performed.

This image was generated using the ascites version of the product.

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