

Product datasheet

Anti-PTEN antibody - Carboxyterminal end ab62421

1 图像

概述

产品名称	Anti-PTEN抗体- Carboxyterminal end
描述	兔多克隆抗体to PTEN - Carboxyterminal end
宿主	Rabbit
特异性	This antibody reacts with PTEN
经测试应用	适用于: WB
种属反应性	与反应: Mouse, Human
免疫原	A 16 amino acid synthetic peptide from near the carboxy-terminus of human PTEN
阳性对照	PC3 cell lysate

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
存储溶液	Preservative: 0.02% Sodium azide Constituent: PBS
纯度	Immunogen affinity purified
克隆	多克隆
同种型	IgG

应用

Our [Abpromise guarantee](#) covers the use of **ab62421** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

应用	Ab评论	说明
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 41 kDa (predicted molecular weight: 47 kDa).

靶标

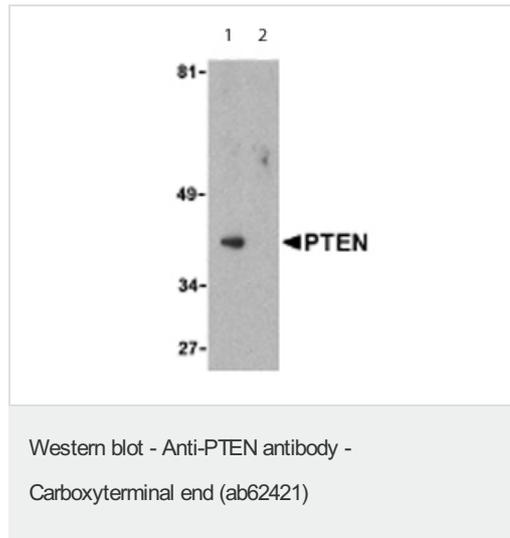
功能	<p>Tumor suppressor. Acts as a dual-specificity protein phosphatase, dephosphorylating tyrosine-, serine- and threonine-phosphorylated proteins. Also acts as a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate, phosphatidylinositol 3,4-diphosphate, phosphatidylinositol 3-phosphate and inositol 1,3,4,5-tetrakisphosphate with order of substrate preference in vitro $\text{PtdIns}(3,4,5)\text{P}_3 > \text{PtdIns}(3,4)\text{P}_2 > \text{PtdIns}3\text{P} > \text{Ins}(1,3,4,5)\text{P}_4$. 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>
组织特异性	Expressed at a relatively high level in all adult tissues, including heart, brain, placenta, lung, liver, muscle, kidney and pancreas.
疾病相关	<p>Cowden syndrome 1 Lhermitte-Duclos disease Bannayan-Riley-Ruvalcaba syndrome Squamous cell carcinoma of the head and neck Endometrial cancer</p> <p>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.</p> <p>Glioma 2 VACTERL association with hydrocephalus Prostate cancer Macrocephaly/autism syndrome</p> <p>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.</p>
序列相似性	<p>Contains 1 C2 tensin-type domain.</p> <p>Contains 1 phosphatase tensin-type domain.</p>
结构域	The C2 domain binds phospholipid membranes in vitro in a $\text{Ca}(2+)$ -independent manner; this binding is important for its tumor suppressor function.
翻译后修饰	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.

细胞定位

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.

图片



All lanes : Anti-PTEN antibody - Carboxyterminal end (ab62421) at 1 µg/ml

Lane 1 : PC3 cell lysate, no blocking peptide

Lane 2 : PC3 cell lysate, blocking peptide

Lysates/proteins at 15 µg per lane.

Predicted band size: 47 kDa

Observed band size: 41 kDa

[why is the actual band size different from the predicted?](#)

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