For Research Use Only

Phospho-PTEN (Thr382/383) Polyclonal antibody

Catalog Number:29246-1-AP 6 Publications

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Basic Information

Catalog Number:
29246-1-AP

Concentration:
1000 ug/ml

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
BC005821

GeneID (NCBI):
5728

UNIPROT ID:
P60484

Full Name:
phosphatase and tensin homolog

Calculated MW:
47 kDa

Observed MW:
55-70 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:2000-1:10000
IF/ICC 1:50-1:500

Applications

Tested Applications:
WB, IF/ICC, ELISA

Cited Applications:
WB

Species Specificity:
human, mouse

Cited Species:
human, mouse, pig

Positive Controls:

WB : NIH/3T3 cells, λ phosphatase treated NIH/3T3 cells

IF/ICC : λ phosphatase treated NIH/3T3 cells,

Background Information

PTEN is one of the most critical tumor suppressors, which functions at different subcellular locations, including the plasma membrane and nucleus. The PTEN protein is located at different subcellular regions-PTEN at the plasma membrane suppresses PI3-kinase signaling in cell growth, whereas PTEN in the nucleus maintains genome integrity. At the plasma membrane, PTEN counteracts PI3 kinase signaling by dephosphorylating the potent second messenger PIP3 to PIP2. The loss of PTEN in cancer cells results in over-activation of AKT and mTOR signaling, leading to excessive stimulation of cell growth and inhibition of cell death. In the nucleus, PTEN functions in DNA repair, genome stability, and cell cycle control through associations with Rad51 and p53. PTEN stability is primarily regulated by phosphorylation of C-terminal tail domains (Thr366, Ser370, Ser380, Thr382, Thr383, and Ser385). The phosphorylation leads to a "closed" state of PTEN and maintains PTEN stability. Dephosphorylation of the C-terminal tail opens the PTEN phosphatase domain, thereby increasing PTEN activity. PTEN protein is of the apparent molecular mass expected for PTEN (55 kDa) and PTEN α (70 kDa).(PMID: 33083717, PMID: 20622047, PMID: 24768297)

Notable Publications

Author	Pubmed ID	Journal	Application
C Shu	36306106	J Endocrinol Invest	WB
Aslıhan Şengelen	39341126	Phytomedicine	WB
Ruixue Zhang	39080755	J Transl Med	WB

Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
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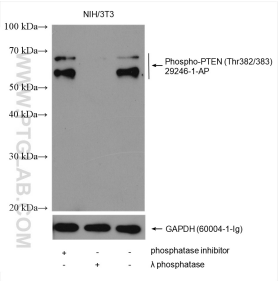
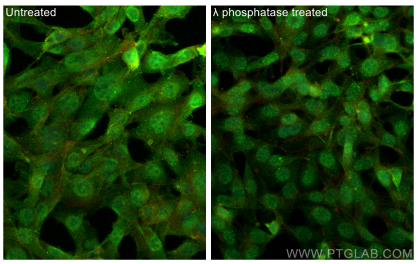
Selected Validation Data



Non-treated NIH/3T3, phosphatase inhibitor treated and λ phosphatase treated NIH/3T3 cells were subjected to SDS PAGE followed by western blot with 29246-1-AP (Phospho-PTEN (Thr382/383) antibody) at dilution of 1:5000 incubated at room temperature for 1 hours. The membrane was stripped and re-blotted with GAPDH antibody as loading control.



Immunofluorescent analysis of (4% PFA) fixed λ phosphatase treated NIH/3T3 cells using Phospho-PTEN (Thr382/383) antibody (29246-1-AP) at dilution of 1:200 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2), CL594-Phalloidin (red).