

For Research Use Only

# PTEN Recombinant antibody

Catalog Number: 80718-7-RR



## Basic Information

<b>Catalog Number:</b> 80718-7-RR	<b>GenBank Accession Number:</b> BC005821	<b>Purification Method:</b> Protein A purification
<b>Size:</b> 100ul , Concentration: 1000 ug/ml by Nanodrop;	<b>GeneID (NCBI):</b> 5728	<b>CloneNo.:</b> 240134F7
<b>Source:</b> Rabbit	<b>UNIPROT ID:</b> P60484	<b>Recommended Dilutions:</b> IF/ICC 1:150-1:600
<b>Isotype:</b> IgG	<b>Full Name:</b> phosphatase and tensin homolog	
<b>Immunogen Catalog Number:</b> AG17274	<b>Calculated MW:</b> 47 kDa	

## Applications

<b>Tested Applications:</b> IF/ICC, FC (Intra), ELISA	<b>Positive Controls:</b> IF/ICC : HeLa cells,
<b>Species Specificity:</b> Human	

## 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 PTENα (70 kDa). (PMID: 33083717, PMID: 20622047, PMID: 24768297)

## Storage

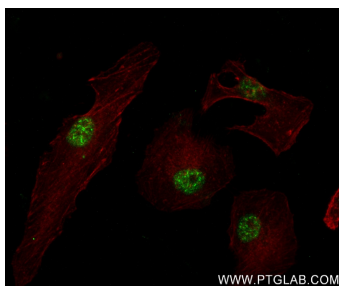
**Storage:**  
Store at -20°C. Stable for one year after shipment.  
**Storage Buffer:**  
PBS with 0.02% sodium azide and 50% glycerol, pH7.3  
Aliquoting is unnecessary for -20°C storage

\*\*\* 20ul sizes contain 0.1% BSA

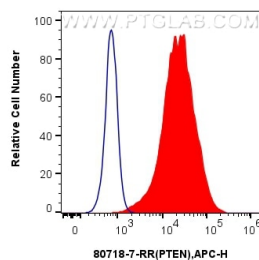
For technical support and original validation data for this product please contact:  
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)  
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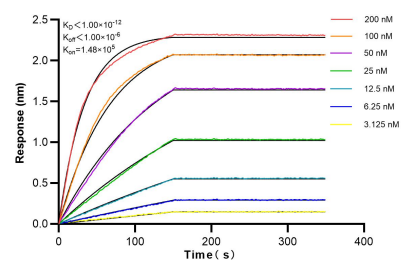
## Selected Validation Data



Immunofluorescent analysis of (4% PFA) fixed HeLa cells using PTEN antibody (80718-7-RR, Clone: 240134F7) at dilution of 1:300 and CoraLite®488-Conjugated Goat Anti-Mouse IgG(H+L) (SA00013-1), CL594-Phalloidin (red).



$1 \times 10^6$  HeLa cells were intracellularly stained with 0.25  $\mu$ g PTEN Recombinant antibody (80718-7-RR, Clone: 240134F7) and APC-Conjugated Goat Anti-Rabbit IgG(H+L)(red), or 0.25  $\mu$ g Isotype Control (blue). Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C).



Biolayer interferometry (BLI) kinetic assays of 80718-7-RR against Human PTEN were performed. The affinity constant is below 1 pM.