



Anti-PTEN monoclonal antibody, clone FQS0052-3 (DCABH-5517)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	Rabbit monoclonal to PTEN
Antigen Description	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.
Immunogen	Recombinant fragment within Human PTEN aa 1 to the C-terminus. The exact sequence is proprietary. Database link: P60484
Isotype	IgG
Source/Host	Rabbit
Species Reactivity	Mouse, Rat, Human
Clone	FQS0052-3

Conjugate	Unconjugated
Applications	IHC-P, WB, ICC/IF
Format	Liquid
Size	100 µl
Buffer	Preservative: 0.01% Sodium azide; Constituents: 50% Glycerol, 0.05% BSA
Storage	Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Ship	Shipped at 4°C.

GENE INFORMATION

Gene Name	PTEN phosphatase and tensin homolog [Homo sapiens]
Official Symbol	PTEN
Synonyms	PTEN; phosphatase and tensin homolog; BZS, MHAM; phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN; MMAC1; mutated in multiple advanced cancers 1; PTEN1; TEP1; phosphatase and tensin-like protein; MMAC1 p
Entrez Gene ID	5728
Protein Refseq	NP_000305
UniProt ID	F6KD01
Chromosome Location	10q23
Pathway	3-phosphoinositide degradation, organism-specific biosystem; 3-phosphoinositide degradation, conserved biosystem; Adaptive Immune System, organism-specific biosystem; Androgen Receptor Signaling Pathway, organism-specific biosystem; BCR signaling pathway, organism-specific biosystem; Class I PI3K signaling events, organism-specific biosystem; D-myo-inositol (1,3,4)-trisphosphate biosynthesis, organism-specific biosystem;
Function	PDZ domain binding; anaphase-promoting complex binding; enzyme binding; hydrolase activity; inositol-1,3,4,5-tetrakisphosphate 3-phosphatase activity; lipid binding; magnesium ion binding; phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase activity; p