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PPP6C Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8477b

Product Information

Application	WB, IHC-P, E
Primary Accession	O00743
Other Accession	Q64620, Q9CQR6
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB5867
Calculated MW	35144
Antigen Region	275-305

Additional Information

Gene ID	5537
Other Names	Serine/threonine-protein phosphatase 6 catalytic subunit, PP6C, Serine/threonine-protein phosphatase 6 catalytic subunit, N-terminally processed, PPP6C, PPP6
Target/Specificity	This PPP6C antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 275-305 amino acids from the C-terminal region of human PPP6C.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PPP6C Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PPP6C {ECO:0000303|PubMed:29053956, ECO:0000312|HGNC:HGNC:9323}
Function	Catalytic subunit of protein phosphatase 6 (PP6) (PubMed: 17079228,

PubMed:29053956, PubMed:32474700). PP6 is a component of a signaling pathway regulating cell cycle progression in response to IL2 receptor stimulation (PubMed:10227379). N-terminal domain restricts G1 to S phase progression in cancer cells, in part through control of cyclin D1 (PubMed:17568194). During mitosis, regulates spindle positioning (PubMed:27335426). Down-regulates MAP3K7 kinase activation of the IL1 signaling pathway by dephosphorylation of MAP3K7 (PubMed:17079228). Also participates in the innate immune defense against viruses by desphosphorylating RIGI, an essential step that triggers RIGI-mediated signaling activation (PubMed:29053956). Also regulates innate immunity by acting as a negative regulator of the cGAS-STING pathway: mediates dephosphorylation and inactivation of CGAS and STING1 (PubMed:32474700, PubMed:32753499). CGAS dephosphorylation at 'Ser-435' impairs its ability to bind GTP, thereby inactivating it (PubMed:32474700).

Cellular Location Mitochondrion. Cytoplasm

Tissue Location Ubiquitously expressed in all tissues tested with highest expression levels in testis, heart, kidney, brain, stomach, liver and skeletal muscle and lowest in placenta, lung colon and spleen.

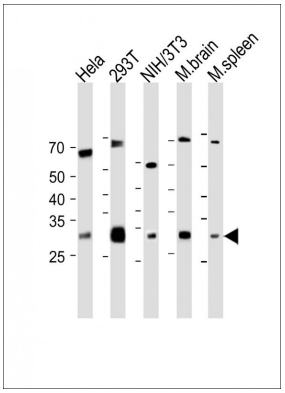
Background

PPP6C belongs to the PPP phosphatase family, PP-V subfamily. Reversible phosphorylation of proteins on serine and threonine residues is an important biochemical event that regulates a broad variety of intracellular processes. The phosphorylation state is determined by the well-controlled balance of activities of serine/threonine-specific protein kinases and protein phosphatases, including PPP6C. Expression levels are highest in testis, heart, and skeletal muscle and lowest in placenta, lung, and kidney. PPP6C can complement mutations in the S. cerevisiae Sit4 and S. pombe ppe1 genes, indicating that PPP6C is the functional homolog of yeast Sit4p and ppe1. Since Sit4p is required for the G1 to S transition of the cell cycle and ppe1 is involved in cell shape control and mitotic division, it has been suggested that PPP6C functions in cell cycle regulation.

References

Yang, J., et al., EMBO J. 24(1):1-10 (2005).
Zhou, G., et al., J. Biol. Chem. 279(45):46595-46605 (2004).
Huang, S., et al., J. Biol. Chem. 279(35):36490-36496 (2004).
Swingle, M.R., et al., J. Biol. Chem. 279(32):33992-33999 (2004).
Wechsler, T., et al., Proc. Natl. Acad. Sci. U.S.A. 101(5):1247-1252 (2004).

Images



All lanes: Anti-PPP6C Antibody (C-term) at 1:500 dilution Lane 1: Hela whole cell lysate Lane 2: 293T whole cell lysate Lane 3: Mouse brain lysate Lane 4: Mouse spleen lysate Lane 5: NIH/3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 34 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Greatwall-phosphorylated Endosulfine is both an inhibitor and a substrate of PP2A-B55 heterotrimers.