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PKN1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1987a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	Q16512
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4H10B1
Isotype	IgG2b
Calculated MW	103932
Description	The protein encoded by this gene belongs to the protein kinase C superfamily. This kinase is activated by Rho family of small G proteins and may mediate the Rho-dependent signaling pathway. This kinase can be activated by phospholipids and by limited proteolysis. The 3-phosphoinositide dependent protein kinase-1 (PDPK1/PDK1) is reported to phosphorylate this kinase, which may mediate insulin signals to the actin cytoskeleton. The proteolytic activation of this kinase by caspase-3 or related proteases during apoptosis suggests its role in signal transduction related to apoptosis. Alternatively spliced transcript variants encoding distinct isoforms have been observed.
Immunogen	Purified recombinant fragment of human PKN1 (AA: 442-620) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	5585
Other Names	Serine/threonine-protein kinase N1, 2.7.11.13, Protease-activated kinase 1, PAK-1, Protein kinase C-like 1, Protein kinase C-like PKN, Protein kinase PKN-alpha, Protein-kinase C-related kinase 1, Serine-threonine protein kinase N, PKN1, PAK1, PKN, PRK1, PRKCL1
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PKN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PKN1
Synonyms	PAK1, PKN, PRK1, PRKCL1
Function	PKC-related serine/threonine-protein kinase involved in various processes such as regulation of the intermediate filaments of the actin cytoskeleton, cell migration, tumor cell invasion and transcription regulation. Part of a signaling cascade that begins with the activation of the adrenergic receptor ADRA1B and leads to the activation of MAPK14. Regulates the cytoskeletal network by phosphorylating proteins such as VIM and neurofilament proteins NEFH, NEFL and NEFM, leading to inhibit their polymerization. Phosphorylates 'Ser-575', 'Ser-637' and 'Ser-669' of MAPT/Tau, lowering its ability to bind to microtubules, resulting in disruption of tubulin assembly. Acts as a key coactivator of androgen receptor (AR)-dependent transcription, by being recruited to AR target genes and specifically mediating phosphorylation of 'Thr-11' of histone H3 (H3T11ph), a specific tag for epigenetic transcriptional activation that promotes demethylation of histone H3 'Lys-9' (H3K9me) by KDM4C/JMJD2C. Phosphorylates HDAC5, HDAC7 and HDAC9, leading to impair their import in the nucleus. Phosphorylates 'Thr-38' of PPP1R14A, 'Ser-159', 'Ser-163' and 'Ser-170' of MARCKS, and GFAP. Able to phosphorylate RPS6 in vitro.
Cellular Location	Cytoplasm. Nucleus Endosome. Cell membrane {ECO:0000250|UniProtKB:Q63433}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q63433}. Cleavage furrow. Midbody Note=Associates with chromatin in a ligand-dependent manner Localization to endosomes is mediated via its interaction with RHOB Association to the cell membrane is dependent on Ser-377 phosphorylation. Accumulates during telophase at the cleavage furrow and finally concentrates around the midbody in cytokinesis {ECO:0000250|UniProtKB:Q63433, ECO:0000269|PubMed:17332740}
Tissue Location	Found ubiquitously. Expressed in heart, brain, placenta, lung, skeletal muscle, kidney and pancreas. Expressed in numerous tumor cell lines, especially in breast tumor cells

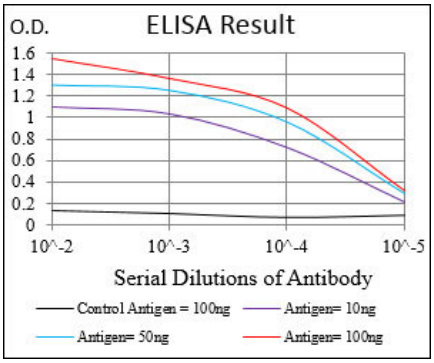
Background

T protein p53 binding protein 1 may have a role in checkpoint signaling during mitosis,enhance TP53-mediated transcriptional activation and play a role in the response to DNA damage. ;

References

1. J Biol Chem. 2013 Nov 29;288(48):34658-70.2. Hum Pathol. 2009 Oct;40(10):1434-40.

Images


O.D.
ELISA Result
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
10^-2
10^-3
10^-4
10^-5
Serial Dilutions of Antibody
Control Antigen = 100ng
Antigen= 10ng
Antigen= 50ng
Antigen= 100ng