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DAPK3 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1931a

Product Information

Application	WB, IHC, FC, E
Primary Accession	O43293
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4H4C8
Isotype	IgG1
Calculated MW	52536
Description	Death-associated protein kinase 3 (DAPK3) induces morphological changes in apoptosis when overexpressed in mammalian cells. These results suggest that DAPK3 may play a role in the induction of apoptosis.
Immunogen	Purified recombinant fragment of human DAPK3 (AA: 28-161) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	1613
Other Names	Death-associated protein kinase 3, DAP kinase 3, 2.7.11.1, DAP-like kinase, Dlk, MYPT1 kinase, Zipper-interacting protein kinase, ZIP-kinase, DAPK3, ZIPK
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 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	DAPK3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DAPK3
Synonyms	ZIPK
Function	Serine/threonine kinase which is involved in the regulation of apoptosis, autophagy, transcription, translation and actin cytoskeleton reorganization.

	Involved in the regulation of smooth muscle contraction. Regulates both type I (caspase-dependent) apoptotic and type II (caspase-independent) autophagic cell deaths signal, depending on the cellular setting. Involved in regulation of starvation-induced autophagy. Regulates myosin phosphorylation in both smooth muscle and non-muscle cells. In smooth muscle, regulates myosin either directly by phosphorylating MYL12B and MYL9 or through inhibition of smooth muscle myosin phosphatase (SMPP1M) via phosphorylation of PPP1R12A; the inhibition of SMPP1M functions to enhance muscle responsiveness to Ca(2+) and promote a contractile state. Phosphorylates MYL12B in non-muscle cells leading to reorganization of actin cytoskeleton. Isoform 2 can phosphorylate myosin, PPP1R12A and MYL12B. Overexpression leads to condensation of actin stress fibers into thick bundles. Involved in actin filament focal adhesion dynamics. The function in both reorganization of actin cytoskeleton and focal adhesion dissolution is modulated by RhoD. Positively regulates canonical Wnt/beta-catenin signaling through interaction with NLK and TCF7L2. Phosphorylates RPL13A on 'Ser-77' upon interferon-gamma activation which is causing RPL13A release from the ribosome, RPL13A association with the GAIT complex and its subsequent involvement in transcript-selective translation inhibition. Enhances transcription from AR-responsive promoters in a hormone- and kinase-dependent manner. Involved in regulation of cell cycle progression and cell proliferation. May be a tumor suppressor.
Cellular Location	Nucleus. Nucleus, PML body {ECO:0000250|UniProtKB:O54784}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000250|UniProtKB:O54784}. Chromosome, centromere. Cytoplasm. Cytoplasm, cytoskeleton, spindle. Midbody Note=Predominantly localizes to the cytoplasm but can shuttle between the nucleus and cytoplasm; cytoplasmic localization is promoted by phosphorylation at Thr-299 and involves Rho/Rock signaling [Isoform 2]: Nucleus. Cytoplasm
Tissue Location	Widely expressed. Isoform 1 and isoform 2 are expressed in the bladder smooth muscle.

Background

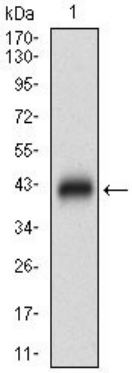
The protein encoded by this gene is an isozyme of very long-chain acyl-CoA synthetase (VLCS). It is capable of activating very long-chain fatty-acids containing 24- and 26-carbons. It is expressed in liver and associated with endoplasmic reticulum but not with peroxisomes. Its primary role is in fatty acid elongation or complex lipid synthesis rather than in degradation. This gene has a mouse ortholog. ; ;

References

1. Cancer Res. 2011 Apr 15;71(8):3152-61.2. Int J Cancer. 2009 Apr 1;124(7):1587-93.

Images

Figure 1: Western blot analysis using DAPK3 mAb against human DAPK3 (AA: 28-161) recombinant protein. (Expected MW is 41.6 kDa)



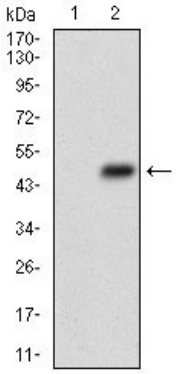


Figure 2: Western blot analysis using DAPK3 mAb against HEK293 (1) and DAPK3 (AA: 28-161)-hIgGFc transfected HEK293 (2) cell lysate.

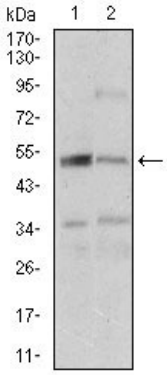


Figure 3: Western blot analysis using DAPK3 mouse mAb against A431 (1), K562 (2) cell lysate.

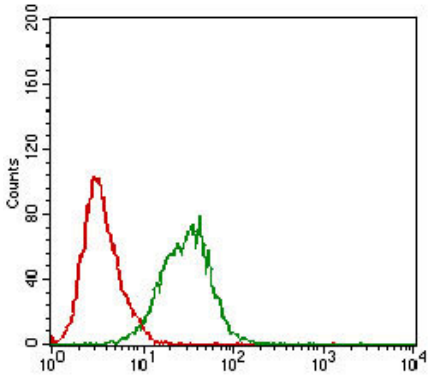


Figure 4: Flow cytometric analysis of A431 cells using DAPK3 mouse mAb (green) and negative control (red).

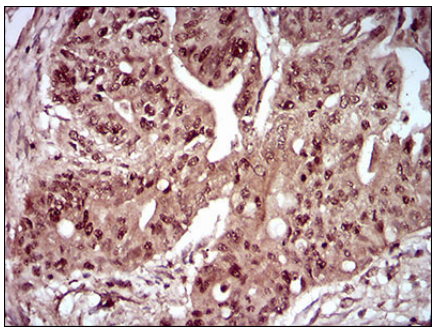


Figure 6: Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using DAPK3 mouse mAb with DAB staining.