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DAPK3 Antibody (Ab-265)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50200

Product Information

Application	WB, IHC
Primary Accession	O43293
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	52536

Additional Information

Gene ID	1613
Other Names	Death-associated protein kinase 3, DAP kinase 3, DAP-like kinase, Dlk, MYPT1 kinase, Zipper-interacting protein kinase, ZIP-kinase, DAPK3, ZIPK
Dilution	WB~~ 1:1000 IHC~~1:50-1:100
Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.
Storage Conditions	-20℃

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

Serine/threonine kinase which is involved in the regulation of apoptosis, autophagy, transcription, translation, actin cytoskeleton reorganization, cell motility, smooth muscle contraction, and mitosis, particularly cytokinesis. Regulates both type I apoptotic and type II autophagic cell deaths signal, depending on the cellular setting. The former is caspase- dependent, while the latter is caspase-independent and is characterized by the accumulation of autophagic vesicles. 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, and the inhibition of SMPP1M functions to enhance muscle responsiveness to Ca(2+) and promote a contractile state. Enhances transcription from AR-responsive promoters in a hormone- and kinase-dependent manner. Phosphorylates STAT3 and enhances its transcriptional activity. Positively regulates the canonical Wnt/beta-catenin signaling through interaction with NLK and TCF7L2. Can disrupt the NLK-TCF7L2 complex thereby influencing the phosphorylation of TCF7L2 by NLK. Phosphorylates histone H3 on 'Thr-11' at centromeres during mitosis. Involved in the formation of promyelocytic leukemia protein nuclear body (PML-NB), one of many subnuclear domains in the eukaryotic cell nucleus, and which is involved in oncogenesis and viral infection. Phosphorylates RPL13A on 'Ser-77' upon interferon-gamma activation which is causing RPL13A release from the ribosome, its association with the GAIT complex and its subsequent involvement in transcript- selective translation inhibition.

References

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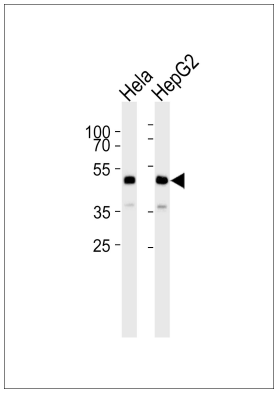
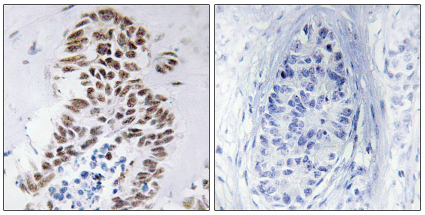
Murata-Hori M.,et al.FEBS Lett. 451:81-84(1999).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Takamoto N.,et al.Arch. Biochem. Biophys. 456:194-203(2006).
Preuss U.,et al.Eur. J. Cell Biol. 82:447-459(2003).

Images

Western blot analysis of lysates from Hela,HepG2 cell line (from left to right),using DAPK3 Antibody (Ab-265)(B0900). B0900 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as



the secondary antibody.Lysates at 35ug per lane.



Immunohistochemistry analysis of paraffin-embedded human lung carcinoma tissue using DAPK3 (Ab-265) antibody.

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