

DAPK1 Rabbit pAb

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Catalog # AP52224

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P53355
Predicted	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	160046
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DAPK1
Epitope Specificity	1331-1430/1430
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Colocalizes with the actin filament system.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	DAPK1 expression is frequently lost in human carcinomas and B-cell leukemia, and lower levels of expression correlates with high rates of metastasis. The loss of DAPK expression provides a link between suppression of apoptosis and metastasis. DAPK1 is thought be involved in an early apoptotic checkpoint which eliminates premalignant cells from cancer formation. Studies in bladder cancer patients have also shown that hypermethylation of DAPK1 correlates to high recurrence rates and thus DAPK1 may be used as a prognostic marker. DAPK1 is also reportedly a molecular regulator of neuronal death in epilepsy.

Additional Information

Gene ID	1612
Other Names	Death-associated protein kinase 1, DAP kinase 1, 2.7.11.1, DAPK1, DAPK
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	DAPK1
Synonyms	DAPK
Function	Calcium/calmodulin-dependent serine/threonine kinase involved in multiple cellular signaling pathways that trigger cell survival, apoptosis, and autophagy. 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. Phosphorylates PIN1 resulting in inhibition of its catalytic activity, nuclear localization, and cellular function. Phosphorylates TPM1, enhancing stress fiber formation in endothelial cells. Phosphorylates STX1A and significantly decreases its binding to STXBP1. Phosphorylates PRKD1 and regulates JNK signaling by binding and activating PRKD1 under oxidative stress. Phosphorylates BECN1, reducing its interaction with BCL2 and BCL2L1 and promoting the induction of autophagy. Phosphorylates TSC2, disrupting the TSC1-TSC2 complex and stimulating mTORC1 activity in a growth factor-dependent pathway. Phosphorylates RPS6, MYL9 and DAPK3. Acts as a signaling amplifier of NMDA receptors at extrasynaptic sites for mediating brain damage in stroke. Cerebral ischemia recruits DAPK1 into the NMDA receptor complex and it phosphorylates GRINB at Ser-1303 inducing injurious Ca(2+) influx through NMDA receptor channels, resulting in an irreversible neuronal death. Required together with DAPK3 for phosphorylation of RPL13A upon interferon-gamma activation which is causing RPL13A involvement in transcript-selective translation inhibition.
Cellular Location	[Isoform 1]: Cytoplasm. Cytoplasm, cytoskeleton. Note=Colocalizes with MAP1B in the microtubules and cortical actin fibers
Tissue Location	Isoform 2 is expressed in normal intestinal tissue as well as in colorectal carcinomas.

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References

Deiss L.P.,et al.Genes Dev. 9:15-30(1995).
Feinstein E.,et al.Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Humphray S.J.,et al.Nature 429:369-374(2004).

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