

Recombinant Mouse Dapk1 Protein, Myc/DDK-tagged

Cat. No. Dapk1-2451M Lot. No. (See product label)

SPECIFICATION

Product Overview Purified recombinant protein of mouse full-length death associated protein kinase 1 (cDNA clone MGC:61377 IMAGE:6821014), complete cds, with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species Mouse

Source HEK293

Description 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 Ca²⁺

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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.

Molecular Mass	101.2 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Dapk1 death associated protein kinase 1 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Dapk1
Synonyms	DAPK1; death associated protein kinase 1; death-associated protein kinase 1; DAP kinase 1; A1642003; D13Ucla1; DAP-Kinase; 2310039H24Rik; 2810425C21Rik
Gene ID	69635
mRNA Refseq	NM_029653

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Protein Refseq NP_083929

UniProt ID Q80YE7

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