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DMPK Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17033a

Product Information

Application	WB, E
Primary Accession	Q09013
Other Accession	NP_001075029.1, NP_001075031.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36813
Calculated MW	69385
Antigen Region	11-39

Additional Information

Gene ID	1760
Other Names	Myotonin-protein kinase, MT-PK, DM-kinase, DMK, DM1 protein kinase, DMPK, Myotonic dystrophy protein kinase, DMPK, DM1PK, MDPK
Target/Specificity	This DMPK antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 11-39 amino acids from the N-terminal region of human DMPK.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DMPK Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DMPK
Synonyms	DM1PK, MDPK
Function	Non-receptor serine/threonine protein kinase which is necessary for the

	maintenance of skeletal muscle structure and function. May play a role in myocyte differentiation and survival by regulating the integrity of the nuclear envelope and the expression of muscle-specific genes. May also phosphorylate PPP1R12A and inhibit the myosin phosphatase activity to regulate myosin phosphorylation. Also critical to the modulation of cardiac contractility and to the maintenance of proper cardiac conduction activity probably through the regulation of cellular calcium homeostasis. Phosphorylates PLN, a regulator of calcium pumps and may regulate sarcoplasmic reticulum calcium uptake in myocytes. May also phosphorylate FXYD1/PLM which is able to induce chloride currents. May also play a role in synaptic plasticity.
Cellular Location	Endoplasmic reticulum membrane; Single-pass type IV membrane protein; Cytoplasmic side. Nucleus outer membrane; Single-pass type IV membrane protein; Cytoplasmic side Mitochondrion outer membrane; Single-pass type IV membrane protein. Sarcoplasmic reticulum membrane. Cell membrane. Cytoplasm, cytosol. Note=Localizes to sarcoplasmic reticulum membranes of cardiomyocytes. [Isoform 3]: Mitochondrion membrane.
Tissue Location	Most isoforms are expressed in many tissues including heart, skeletal muscle, liver and brain, except for isoform 2 which is only found in the heart and skeletal muscle, and isoform 14 which is only found in the brain, with high levels in the striatum, cerebellar cortex and pons.

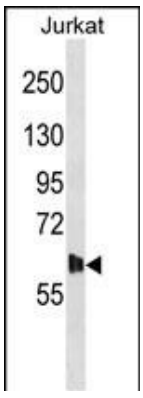
Background

The protein encoded by this gene is a serine-threonine kinase that is closely related to other kinases that interact with members of the Rho family of small GTPases. Substrates for this enzyme include myogenin, the beta-subunit of the L-type calcium channels, and phospholemman. The 3' untranslated region of this gene contains 5-37 copies of a CTG trinucleotide repeat. Expansion of this unstable motif to 50-5,000 copies causes myotonic dystrophy type I, which increases in severity with increasing repeat element copy number. Repeat expansion is associated with condensation of local chromatin structure that disrupts the expression of genes in this region. Several alternatively spliced transcript variants of this gene have been described, but the full-length nature of some of these variants has not been determined.

References

Theerasasawat, S., et al. J Clin Neurosci 17(12):1520-1522(2010)
Santoro, M., et al. Exp. Mol. Pathol. 89(2):158-168(2010)
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Vignaud, A., et al. Neuromuscul. Disord. 20(5):319-325(2010)
Kwon, M.J., et al. Ann. Clin. Lab. Sci. 40(2):156-162(2010)

Images



DMPK Antibody (N-term) (Cat. #AP17033a) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the DMPK antibody detected the DMPK protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.