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DMPK Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7034b

Specification

DMPK Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q09013

DMPK Antibody (C-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP7034b was selected from the C-term region of human DMPK . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DMPK Antibody (C-term) Blocking Peptide - Protein Information

Name DMPK

DMPK Antibody (C-term) Blocking Peptide - Background

DMPK, a member of the Ser/Thr protein kinase family, may play a role in intracellular communication. Most DMPK 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. The poly-Gln region upstream/downstream of the gene is highly polymorphic (5 to 27 repeats) in the normal population and is expanded up to 50-3000 or more repeats in DM patients. The repeat length usually increases in successive generations, but not always. Defects in DMPK are the cause of myotonic dystrophy (DM), also known as Steinert disease. DM is an autosomal dominant neurodegenerative disorder characterized by myotonia, muscle wasting in the distal extremities, cataract, hypogonadism, defective endocrine functions, male baldness, and cardiac arrhythmias. DM patients show decreased levels of kinase expression inversely related to repeat length. The minimum estimated incidence is 1 in 8000 live births.

DMPK Antibody (C-term) Blocking Peptide - References

Gennarelli, M., et al., Biochem. Biophys. Res. Commun. 216(2):489-494 (1995).Sasagawa, N., et al., FEBS Lett. 351(1):22-26 (1994).Mahadevan, M.S., et al., Hum. Mol. Genet. 2(3):299-304 (1993).Shaw, D.J., et al., Genomics 18(3):673-679 (1993).Fu, Y.-H., et al., Science 260(5105):235-238 (1993).

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.

DMPK Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides