DMPK Protein, Human (Sf9, His)

Cat. No.:	HY-P701666
Synonyms:	DMPK; Myotonin-protein kinase; MT-PK; DM-kinase; DMK; DM1 protein kinase; DMPK; Myotonic dystrophy protein kinase
Species:	Human
Source:	Sf9 insect cells
Accession:	Q09013 (M1-P629)
Gene ID:	1760
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	DMPK, a non-receptor serine/threonine protein kinase, is essential for maintaining the structural and functional integrity of skeletal muscle. It likely contributes to myocyte differentiation and survival by influencing the nuclear envelope's integrity and the expression of muscle-specific genes. Additionally, DMPK may phosphorylate PPP1R12A, inhibiting myosin phosphatase activity and thereby regulating myosin phosphorylation. This kinase is crucial for modulating cardiac contractility and ensuring proper cardiac conduction activity, potentially through the regulation of cellular calcium homeostasis. DMPK's involvement extends to phosphorylating PLN, a regulator of calcium pumps, suggesting a role in modulating sarcoplasmic reticulum calcium uptake in myocytes. Furthermore, DMPK may phosphorylate FXYD1/PLM, known for inducing chloride currents, and might also play a role in synaptic plasticity.

Caution: Product has not been fully validated for medical applications. For research use only.