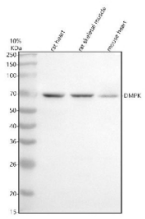
DMPK Antibody / Muscle Signaling Protein Antibody (FY12356)

Catalog No.	Formulation	Size
FY12356	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P54265
Applications	Western Blot: 0.25-0.5ug/ml
Limitations	This DMPK Antibody / Muscle Signaling Protein Antibody is available for research use only.



DMPK Antibody Heart and Skeletal Muscle WB. Western blot analysis of DMPK using anti-DMPK antibody demonstrates a distinct immunoreactive band at approximately 69 kDa in rat heart, rat skeletal muscle, and mouse heart tissue lysates, consistent with the expected molecular weight of Dystrophia Myotonica Protein Kinase (DMPK). DMPK is a muscle signaling protein involved in regulation of muscle cell architecture, intracellular communication, and maintenance of normal skeletal and cardiac muscle function. The observed expression pattern in both cardiac and skeletal muscle tissues is consistent with the established biologic distribution of DMPK and supports the utility of this antibody for investigating muscle signaling pathways, myotonic dystrophy-associated mechanisms, and muscle physiology research. Western blot was performed using 0.5 ug/ml primary antibody. Predicted molecular weight: ~69 kDa.

Description

DMPK Antibody / Muscle Signaling Protein Antibody is designed for the detection and study of DMPK (Dystrophia Myotonica Protein Kinase), a serine/threonine kinase that plays an important role in muscle signaling, cellular organization, and maintenance of normal muscle physiology. DMPK is expressed predominantly in skeletal muscle and cardiac muscle tissues, where it contributes to pathways regulating cellular communication, membrane stability,

cytoskeletal dynamics, and contractile function. Because of its central role in muscle biology, DMPK has become an important target for research involving muscle development, maintenance, and signaling mechanisms that support normal tissue function.

As a muscle signaling protein, DMPK participates in intracellular pathways that help coordinate structural integrity and physiologic responsiveness within muscle cells. The kinase has been implicated in regulation of membrane-associated complexes, ion transport processes, intracellular trafficking pathways, and cytoskeletal organization required for proper muscle performance. Through these activities, DMPK contributes to the maintenance of specialized muscle cell characteristics and supports signaling networks necessary for normal skeletal and cardiac muscle function. Ongoing studies continue to examine how DMPK influences communication between cellular compartments and how these processes contribute to long-term tissue stability and physiologic adaptation.

DMPK is a member of a family of serine/threonine kinases involved in regulation of cellular architecture and signaling events. Although initially identified because of its association with inherited neuromuscular disease, subsequent research has demonstrated that DMPK functions as a broader muscle signaling protein involved in maintaining normal cellular homeostasis. Investigators have explored its role in membrane dynamics, calcium-associated signaling pathways, mitochondrial regulation, and mechanisms that help preserve muscle cell integrity under changing physiologic conditions. These diverse functions have expanded interest in DMPK beyond genetic disease research and into the broader fields of muscle biology and cellular signaling.

DMPK is also well known because mutations involving expansion of a CTG trinucleotide repeat within the DMPK gene cause myotonic dystrophy type 1 (DM1), one of the most common inherited neuromuscular disorders. The expanded repeat produces toxic RNA transcripts that disrupt normal RNA processing and gene regulation, resulting in widespread cellular dysfunction. Because the disease-causing mutation occurs within the DMPK gene itself, DMPK remains central to investigations of disease pathogenesis, repeat expansion disorders, and mechanisms underlying progressive muscle impairment. Researchers frequently examine DMPK expression and regulation when studying molecular changes associated with neuromuscular disease and muscle degeneration.

Beyond its relationship to myotonic dystrophy, DMPK continues to attract interest as a muscle signaling protein involved in the regulation of muscle adaptation, maintenance, and tissue homeostasis. Studies of DMPK help researchers better understand how muscle cells respond to physiologic stress, maintain structural organization, and coordinate signaling pathways required for efficient contractile activity. The protein's prominent expression in skeletal and cardiac muscle has also made it relevant to investigations of muscle development, differentiation, and long-term tissue function. As understanding of muscle-associated signaling networks continues to expand, DMPK remains an important target for both fundamental and translational research applications.

DMPK Antibody is suitable for applications including western blotting, immunohistochemistry, immunofluorescence, flow cytometry, and related protein expression studies. Researchers utilize DMPK Antibody reagents to evaluate protein expression patterns, characterize muscle signaling pathways, investigate mechanisms of muscle maintenance, and examine molecular changes associated with neuromuscular disease. The continued importance of DMPK in studies of muscle biology, cellular regulation, and disease-related signaling ensures its value as a research target across a broad range of experimental disciplines.

Discover more antibodies involved in intracellular signaling pathways and cellular regulation on our Signal Transduction Antibodies page.

Application Notes

Optimal dilution of the DMPK Antibody / Muscle Signaling Protein Antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human DMPK was used as the immunogen for the

DMPK antibody.

Storage

After reconstitution, the DMPK antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

DMPK Antibody, Myotonic Dystrophy Protein Kinase Antibody, DM1 Protein Antibody, Myotonin Protein Kinase Antibody, Dystrophia Myotonica Protein Kinase Antibody, Serine/Threonine Protein Kinase DMPK Antibody, Muscle Associated Protein Kinase Antibody

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