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heavy chain cardiac Myosin Rabbit pAb

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Catalog # AP55998

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	P12883
Reactivity	Human
Predicted	Mouse, Rat, Dog, Pig, Horse, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	223097
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human MYH6 / MYH7
Epitope Specificity	1801-1939/1939
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm, myofibril. Note=Thick filaments of the myofibrils.
SIMILARITY	Contains 1 IQ domain.Contains 1 myosin head-like domain.
SUBUNIT	Muscle myosin is a hexameric protein that consists of 2 heavy chain subunits (MHC), 2 alkali light chain subunits (MLC) and 2 regulatory light chain subunits (MLC-2).
DISEASE	Defects in MYH7 are the cause of cardiomyopathy familial hypertrophic type 1 (CMH1) [MIM:192600]. Familial hypertrophic cardiomyopathy is a hereditary heart disorder characterized by ventricular hypertrophy, which is usually asymmetric and often involves the interventricular septum. The symptoms include dyspnea, syncope, collapse, palpitations, and chest pain. They can be readily provoked by exercise. The disorder has inter- and intrafamilial variability ranging from benign to malignant forms with high risk of cardiac failure and sudden cardiac death.Defects in MYH7 are the cause of myopathy myosin storage (MYOMS) [MIM:608358]. In this disorder, muscle biopsy shows type 1 fiber predominance and increased interstitial fat and connective tissue. Inclusion bodies consisting of the beta cardiac myosin heavy chain are present in the majority of type 1 fibers, but not in type 2 fibers.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Myosin heavy chains are ubiquitous Actin-based motor proteins that convert the chemical energy derived from ATP hydrolysis into the mechanical energy that drives diverse motile processes in eukaryotic cells, including cytokinesis, vesicular transport and cellular locomotion. Muscle myosin is a heterohexamer consisting of two myosin heavy chains and two associated nonidentical pairs of myosin light chains. The seven myosin heavy chain isoforms that predominate in mammalian skeletal muscles include two developmental isoforms, MHC-embryonic (MYH3) and MHC-perinatal (MYH8); three adult skeletal muscle isoforms, MHC IIa (MYH2), MHC IIb (MYH4) and MHC IIx/d (MYH1); and MHC-∫/slow (MYH7 or MHC-∫), which is also expressed in cardiac muscle. Research indicates that mutations of the MYH7 gene causes

hypertrophic cardiomyopathy.

Additional Information

Gene ID	4625
Other Names	Myosin-7, Myosin heavy chain 7, Myosin heavy chain slow isoform, MyHC-slow, Myosin heavy chain, cardiac muscle beta isoform, MyHC-beta, MYH7, MYHCB
Target/Specificity	Both wild type and variant Gln-403 are detected in skeletal muscle (at protein level).
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	MYH7
Synonyms	MYHCB
Function	Myosins are actin-based motor molecules with ATPase activity essential for muscle contraction. Forms regular bipolar thick filaments that, together with actin thin filaments, constitute the fundamental contractile unit of skeletal and cardiac muscle.
Cellular Location	Cytoplasm, myofibril {ECO:0000250|UniProtKB:P02564}. Cytoplasm, myofibril, sarcomere {ECO:0000250|UniProtKB:P02564}. Note=Thick filaments of the myofibrils {ECO:0000250|UniProtKB:P02564}
Tissue Location	Both wild type and variant Gln-403 are detected in skeletal muscle (at protein level).

Background

Myosin heavy chains are ubiquitous Actin-based motor proteins that convert the chemical energy derived from ATP hydrolysis into the mechanical energy that drives diverse motile processes in eukaryotic cells, including cytokinesis, vesicular transport and cellular locomotion. Muscle myosin is a heterohexamer consisting of two myosin heavy chains and two associated nonidentical pairs of myosin light chains. The seven myosin heavy chain isoforms that predominate in mammalian skeletal muscles include two developmental isoforms, MHC-embryonic (MYH3) and MHC-perinatal (MYH8); three adult skeletal muscle isoforms, MHC IIa (MYH2), MHC IIb (MYH4) and MHC IIx/d (MYH1); and MHC-ʃ/slow (MYH7 or MHC-ʃ), which is also expressed in cardiac muscle. Research indicates that mutations of the MYH7 gene causes hypertrophic cardiomyopathy.