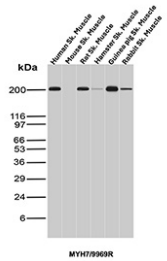
Beta-Myosin Heavy Chain Antibody / MYH7 [clone MYH7/9969R] (V5955)

Catalog No.	Formulation	Size
V5955-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5955-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5955SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

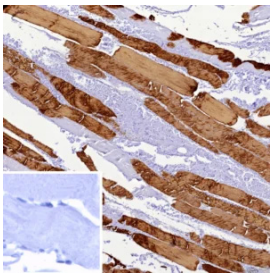
Recombinant RABBIT MONOCLONAL

Bulk quote request

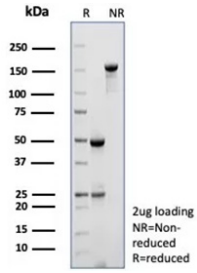
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MYH7/9969R
UniProt	P12883
Localization	Cytoplasm, Myofibril
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This Beta-Myosin Heavy Chain/MYH7 antibody is available for research use only.



Western blot analysis of Beta-Myosin Heavy Chain / MYH7 antibody (clone MYH7/9969R). Skeletal muscle tissue lysates from human, mouse, rat, hamster, guinea pig, and rabbit were resolved by SDS-PAGE and probed with Beta-Myosin Heavy Chain / MYH7 antibody (clone MYH7/9969R), demonstrating a prominent immunoreactive band at approximately 220 kDa consistent with the predicted molecular weight of MYH7. The observed band corresponds to beta-myosin heavy chain expressed in slow-twitch skeletal muscle fibers across species.



Immunohistochemistry analysis of Beta-Myosin Heavy Chain / MYH7 antibody (clone MYH7/9969R) in human skeletal muscle tissue. Formalin-fixed, paraffin-embedded human skeletal muscle section shows strong cytoplasmic brown chromogenic staining in type I slow-twitch muscle fibers consistent with MYH7 expression, while adjacent fibers show weaker staining and nuclei appear blue. The inset shows PBS used in place of primary antibody as a negative control with no specific staining observed. Heat-induced epitope retrieval was performed by heating tissue sections in 10 mM Tris with 1 mM EDTA, pH 9.0, for 45 minutes at 95oC followed by cooling at room temperature for 20 minutes prior to staining.



SDS-PAGE analysis of purified Beta-Myosin Heavy Chain/MYH7 antibody (clone MYH7/9969R). Confirmation of Purity and Integrity of Antibody.

Description

Beta-Myosin Heavy Chain antibody (clone MYH7/9969R) targets the beta-myosin heavy chain protein encoded by the human MYH7 gene, a major sarcomeric motor protein expressed in cardiac muscle and type I slow-twitch skeletal muscle fibers. Beta-myosin heavy chain, also commonly referred to as MYH7 or Myosin 7 in molecular and clinical literature, plays a central role in contractile force generation within the sarcomere. Beta-Myosin Heavy Chain antibody is widely used in cardiovascular and skeletal muscle research because MYH7 expression defines ventricular myocardium and slow oxidative muscle fibers.

The MYH7 gene encodes the beta-myosin heavy chain isoform that predominates in human ventricular cardiac muscle and in type I slow skeletal muscle fibers. The protein forms thick filaments that interact with actin filaments through ATP-dependent motor activity to produce muscle contraction. Beta-Myosin Heavy Chain antibody clone MYH7/9969R is a recombinant monoclonal antibody developed for consistent detection of MYH7 expression in cardiac and skeletal muscle tissues in research applications.

Mutations in MYH7 are strongly associated with inherited cardiomyopathies, including hypertrophic cardiomyopathy and dilated cardiomyopathy, as well as certain skeletal myopathies. Altered MYH7 expression and isoform switching are observed in cardiac remodeling, heart failure, and developmental transitions in muscle fiber composition. Because of its importance in sarcomere integrity and cardiac performance, Beta-Myosin Heavy Chain antibody supports investigation of contractile machinery and muscle disease mechanisms.

Structurally, beta-myosin heavy chain contains a globular head domain responsible for ATP hydrolysis and actin binding, a neck region that associates with regulatory light chains, and a long coiled-coil tail that mediates thick filament assembly. As a recombinant monoclonal antibody, clone MYH7/9969R provides defined sequence consistency for detecting MYH7 expression in cardiac and slow skeletal muscle tissues in research settings.

Application Notes

1. Optimal dilution of the Beta-Myosin Heavy Chain/MYH7 antibody should be determined by the researcher.

2. This Beta-Myosin Heavy Chain/MYH7 antibody is recombinantly produced by expression in CHO cells.

Immunogen

A recombinant fragment (around amino acids 1150-1350) of human MYH7 protein (exact sequence is proprietary) was

used as the immunogen for the Beta-Myosin Heavy Chain/MYH7 antibody.

Storage

Beta-Myosin Heavy Chain/MYH7 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.