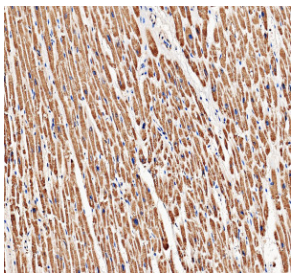
PYGM Antibody / Muscle Glycogen Phosphorylase Antibody (FY13508)

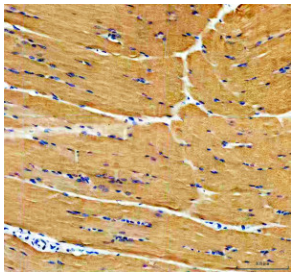
Catalog No.	Formulation	Size
FY13508	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

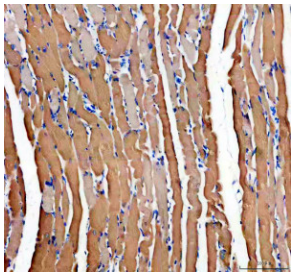
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4
UniProt	P11217
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This PYGM Antibody / Muscle Glycogen Phosphorylase Antibody is available for research use only.



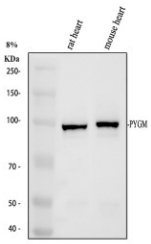
PYGM Antibody staining of human cardiac muscle by IHC. Immunohistochemistry of FFPE human cardiac muscle sections using the PYGM Antibody at 2 ug/ml. Strong brown cytoplasmic staining is distributed extensively throughout the cardiomyocytes, with clear preservation of the elongated muscle fibers and blue nuclear counterstaining. Heat-mediated antigen retrieval was performed in pH 8 EDTA before overnight primary antibody incubation at 4oC. The robust muscle staining is consistent with abundant PYGM expression in striated muscle and demonstrates detection of myophosphorylase with this Muscle Glycogen Phosphorylase Antibody.



PYGM Antibody staining of rat skeletal muscle by IHC. Immunohistochemistry of FFPE rat skeletal muscle tissue sections using the PYGM Antibody at 2 ug/ml. Strong brown cytoplasmic staining is distributed throughout the elongated skeletal muscle fibers, with blue nuclear counterstaining and relatively little staining in the intervening connective tissue. Heat-mediated antigen retrieval was performed in pH 8 EDTA before overnight primary antibody incubation at 4oC. The widespread staining of skeletal muscle fibers is consistent with abundant myophosphorylase expression and demonstrates detection of PYGM with this Muscle Glycogen Phosphorylase Antibody.



PYGM Antibody staining of mouse skeletal muscle by IHC. Immunohistochemistry of FFPE mouse skeletal muscle tissue sections using the PYGM Antibody at 2 ug/ml. Brown cytoplasmic staining is evident throughout the longitudinally oriented skeletal muscle fibers, with some variation in staining intensity between fibers. Elongated muscle fibers are separated by narrow connective tissue spaces, and nuclei are counterstained blue. Heat-mediated antigen retrieval was performed in pH 8 EDTA before overnight primary antibody incubation at 4oC. The observed staining pattern is consistent with the localization of myophosphorylase in skeletal muscle and demonstrates tissue detection with this Muscle Glycogen Phosphorylase Antibody.



PYGM Antibody detection in rat and mouse heart by WB. Western blot testing of rat heart (lane 1) and mouse heart (lane 2) tissue lysates with the PYGM Antibody at 0.5 ug/ml under reducing conditions. Thirty micrograms of protein were loaded per lane. A strong, discrete band is detected at approximately 97 kDa in both samples, closely matching the calculated molecular weight of 97.1 kDa for PYGM. The clean signal in both species demonstrates recognition of myophosphorylase by this Muscle Glycogen Phosphorylase Antibody.

Description

PYGM Antibody / Muscle Glycogen Phosphorylase Antibody recognizes the muscle isoform of glycogen phosphorylase, an enzyme encoded by the PYGM gene. Also known as myophosphorylase, PYGM catalyzes the phosphorolytic cleavage of alpha-1,4 glycosidic bonds in glycogen, releasing glucose-1-phosphate from the nonreducing ends of glycogen chains. This reaction represents a key step in glycogenolysis and enables stored carbohydrate to be rapidly mobilized for energy production. Muscle glycogen phosphorylase is particularly important for meeting the increased metabolic demands associated with skeletal muscle contraction.

Glycogen phosphorylase activity is regulated through both covalent modification and allosteric mechanisms. Phosphorylation promotes conversion between less active and more active conformational states, while cellular metabolites provide additional regulation according to energy demand. This multilayered control allows glycogen breakdown to respond rapidly to changes in muscle activity and cellular energy status. A PYGM Antibody can support research examining glycogen metabolism, metabolic regulation and mechanisms controlling the utilization of carbohydrate stores in muscle.

PYGM is one of three major mammalian glycogen phosphorylase isoforms, alongside the liver and brain forms encoded by PYGL and PYGB, respectively. Although these enzymes catalyze the same fundamental reaction, their tissue distribution and regulatory properties reflect distinct physiological roles. Myophosphorylase is specialized for mobilization of glycogen within muscle, where glucose-1-phosphate generated by glycogenolysis can enter glycolytic pathways to support ATP production. A Muscle Glycogen Phosphorylase Antibody is therefore useful for investigating the metabolic specialization of muscle and the regulation of energy production during changing physiological demands.

Pathogenic variants in PYGM cause glycogen storage disease type V, also known as McArdle disease, which is characterized by impaired muscle glycogen breakdown and reduced ability to generate energy from glycogen during exercise. PYGM biology is therefore relevant to research into inherited metabolic disease, skeletal muscle physiology, exercise metabolism and glycogen homeostasis. NSJ Bioreagents provides this polyclonal reagent for researchers investigating muscle carbohydrate metabolism. A PYGM Antibody provides a useful tool for studying myophosphorylase and its roles in muscle glycogenolysis, metabolic regulation and cellular energy production.

This PYGM Antibody is part of our Metabolism Antibodies collection.

Application Notes

Optimal dilution of the PYGM Antibody / Muscle Glycogen Phosphorylase Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Glycogen phosphorylase, muscle form recombinant protein (amino acids V390-R804) was used as the immunogen for the PYGM Antibody.

Storage

After reconstitution, the PYGM 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

Muscle glycogen phosphorylase antibody, Myophosphorylase antibody, Glycogen phosphorylase muscle form antibody, Muscle phosphorylase antibody

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