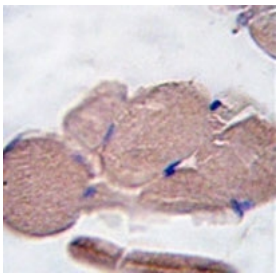
Myostatin Antibody / Muscle Growth Regulator Antibody (F47925)

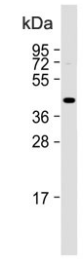
Catalog No.	Formulation	Size
F47925-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F47925-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

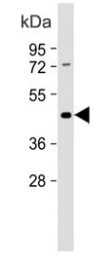
Availability	1-3 business days
Species Reactivity	Human, Mouse
Predicted Reactivity	Bovine, Pig, Primate
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	O14793
Applications	Western blot: 1:1000 IHC (Paraffin): 1:50
Limitations	This Myostatin antibody is available for research use only.



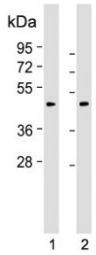
Myostatin Antibody Skeletal Muscle IHC. Immunohistochemistry analysis of FFPE human skeletal muscle tissue stained with Myostatin Antibody / Muscle Growth Regulator Antibody demonstrates diffuse cytoplasmic HRP-DAB brown staining throughout skeletal myofibers. The staining pattern is consistent with expression of Myostatin (MSTN), also known as Growth Differentiation Factor 8 (GDF8), a member of the TGF-beta superfamily that functions as a key negative regulator of skeletal muscle growth and differentiation. Widespread immunoreactivity within muscle fibers supports the established role of Myostatin in regulating muscle mass, myofiber homeostasis, tissue remodeling, and myogenic signaling pathways. The observed staining demonstrates the utility of this antibody for studies of skeletal muscle biology, muscle growth regulation, regenerative processes, and muscle-related disease mechanisms.



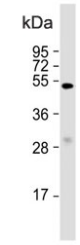
Myostatin Antibody Skeletal Muscle WB. Western blot analysis of human skeletal muscle tissue lysate using Myostatin Antibody / Muscle Growth Regulator Antibody demonstrates a distinct immunoreactive band at approximately 43 kDa. The observed molecular weight is consistent with the predicted size of Myostatin (MSTN), also known as Growth Differentiation Factor 8 (GDF8), a member of the TGF-beta superfamily that functions as a key negative regulator of skeletal muscle growth and myogenic differentiation. Detection of the expected target in human skeletal muscle is consistent with the established role of Myostatin in regulating muscle mass, myofiber homeostasis, tissue remodeling, and muscle growth signaling pathways. The observed immunoreactivity supports the use of this antibody for studies of skeletal muscle biology, myogenesis, regenerative processes, and muscle-related disease mechanisms.



Myostatin Antibody Heart WB. Western blot analysis of human heart tissue lysate using Myostatin Antibody / Muscle Growth Regulator Antibody demonstrates a distinct immunoreactive band at approximately 43 kDa. The observed molecular weight is consistent with the predicted size of Myostatin (MSTN), also known as Growth Differentiation Factor 8 (GDF8), a member of the TGF-beta superfamily that functions as a key regulator of muscle growth, differentiation, and tissue homeostasis. Detection of the expected target in cardiac tissue is consistent with the established role of Myostatin in regulating muscle remodeling, metabolic signaling, and maintenance of striated muscle function. The observed immunoreactivity supports the use of this antibody for studies of cardiac biology, muscle growth regulation, tissue remodeling, and TGF-beta family signaling pathways.



Myostatin Antibody WB. Western blot testing of human 1) HeLa and 2) K562 cell lysate with Myostatin antibody. Predicted molecular weight ~43 kDa.



Myostatin Antibody Mouse Liver WB. Western blot testing of mouse liver tissue lysate with Myostatin antibody. Predicted molecular weight ~43 kDa.

Description

Myostatin Antibody / Muscle Growth Regulator Antibody recognizes Myostatin (MSTN), also known as Growth Differentiation Factor 8 (GDF8), a member of the Transforming Growth Factor Beta (TGF-beta) superfamily that functions as a master negative regulator of skeletal muscle growth. Myostatin plays a critical role in controlling muscle mass, myogenesis, tissue remodeling, and muscle homeostasis by limiting excessive proliferation and differentiation of muscle precursor cells. Through its ability to regulate muscle development and maintenance, Myostatin serves as one of the most important molecular checkpoints governing skeletal muscle size in vertebrates.

Myostatin is synthesized as an inactive precursor protein that undergoes proteolytic processing to generate a mature biologically active growth factor. Following activation, Myostatin signals primarily through activin receptor complexes and downstream SMAD-dependent pathways to suppress myoblast proliferation, differentiation, and muscle fiber growth. This

signaling network ensures proper regulation of muscle development and prevents uncontrolled muscle expansion. The biological significance of Myostatin has been demonstrated across numerous species, where naturally occurring or engineered loss-of-function mutations result in dramatic increases in skeletal muscle mass.

Because of its central role in muscle biology, Myostatin has become a major target in studies of myogenesis, muscle regeneration, exercise physiology, and metabolic regulation. Expression of Myostatin influences muscle fiber size, satellite cell activity, and tissue repair responses following injury. Researchers frequently investigate Myostatin signaling to better understand the mechanisms that regulate muscle growth, adaptation, and maintenance throughout development and aging. The protein is also closely linked to pathways that coordinate communication between skeletal muscle and other physiological systems involved in energy balance and metabolism.

Altered Myostatin expression has been associated with numerous muscle-related conditions including muscular dystrophy, sarcopenia, cachexia, muscle wasting disorders, and age-related loss of muscle mass. Consequently, Myostatin has emerged as an important therapeutic target in efforts to preserve or restore skeletal muscle function. Studies of Myostatin signaling continue to provide valuable insight into the molecular mechanisms governing muscle development, regeneration, and disease progression.

At NSJ Bioreagents, we provide highly validated antibodies for skeletal muscle biology, developmental biology, regenerative medicine, and cell signaling research. Myostatin Antibody / Muscle Growth Regulator Antibody is useful for investigations of muscle development, myogenesis, tissue remodeling, regenerative biology, exercise physiology, and TGF-beta family signaling pathways. Continued study of Myostatin is advancing our understanding of how vertebrate organisms regulate muscle mass, maintain tissue homeostasis, and respond to physiological stress and injury.

Explore our Signal Transduction Antibodies page to discover additional regulatory proteins involved in cellular signaling, transcriptional control, differentiation pathways, and oncogenic signaling networks.

Application Notes

Titration of the Myostatin antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 9-38 from the human protein was used as the immunogen for this Myostatin antibody.

Storage

Aliquot the Myostatin antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Myostatin Antibody, MSTN Antibody, GDF8 Antibody, Growth Differentiation Factor 8 Antibody, Myogenic Growth Factor Antibody, Muscle Growth Regulator Antibody

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