Anti-MUSK Antibody [PSH03-51]

HA722010

Product Type:	Recombinant Rabbit multiclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 97 kDa
Clone number:	PSH03-51

Description: Receptor tyrosine kinase which plays a central role in the formation and the maintenance of the neuromuscular junction (NMJ), the synapse between the motor neuron and the skeletal muscle. Recruitment of AGRIN by LRP4 to the MUSK signaling complex induces phosphorylation and activation of MUSK, the kinase of the complex. The activation of MUSK in myotubes regulates the formation of NMJs through the regulation of different processes including the specific expression of genes in subsynaptic nuclei, the reorganization of the actin cytoskeleton and the clustering of the acetylcholine receptors (AChR) in the postsynaptic membrane. May regulate AChR phosphorylation and clustering through activation of ABL1 and Src family kinases which in turn regulate MUSK. DVL1 and PAK1 that form a ternary complex with MUSK are also important for MUSK-dependent regulation of AChR clustering. May positively regulate Rho family GTPases through FNTA. Mediates the phosphorylation of FNTA which promotes prenylation, recruitment to membranes and activation of RAC1 a regulator of the actin cytoskeleton and of gene expression. Other effectors of the MUSK signaling include DNAJA3 which functions downstream of MUSK. May also play a role within the central nervous system by mediating cholinergic responses, synaptic plasticity and memory formation.

Immunogen: Recombinant protein within human MUSK aa 1-516 / 869.

Positive control: Human brain tissue lysate, mouse brain tissue lysate, mouse skeletal muscle tissue lysate, mouse hippocampus tissue lysate, rat brain tissue lysate, rat skeletal muscle tissue lysate, rat hippocampus tissue lysate, human skeletal muscle tissue, mouse skeletal muscle tissue, rat skeletal muscle tissue.

Subcellular location: Postsynaptic cell membrane.

Database links: SwissProt: O15146 Human | Q61006 Mouse | Q62838 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:500-1:2,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

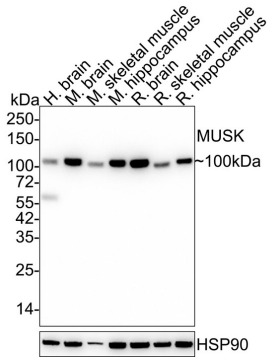

Fig1: Western blot analysis of MUSK on different lysates with Rabbit anti-MUSK antibody (HA722010) at 1/2,000 dilution.

Lane 1: Human brain tissue lysate
Lane 2: Mouse brain tissue lysate
Lane 3: Mouse skeletal muscle tissue lysate
Lane 4: Mouse hippocampus tissue lysate
Lane 5: Rat brain tissue lysate
Lane 6: Rat skeletal muscle tissue lysate
Lane 7: Rat hippocampus tissue lysate

Lysates/proteins at 30 µg/Lane.

Predicted band size: 97 kDa
Observed band size: 100 kDa

Exposure time: 50 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722010) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

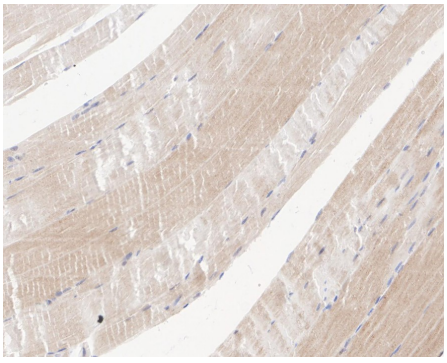

Fig2: Immunohistochemical analysis of paraffin-embedded human skeletal muscle tissue with Rabbit anti-MUSK antibody (HA722010) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722010) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

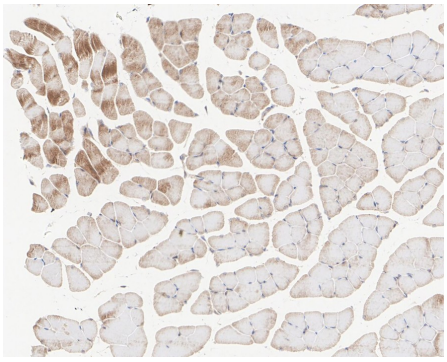

Fig3: Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue with Rabbit anti-MUSK antibody (HA722010) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722010) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

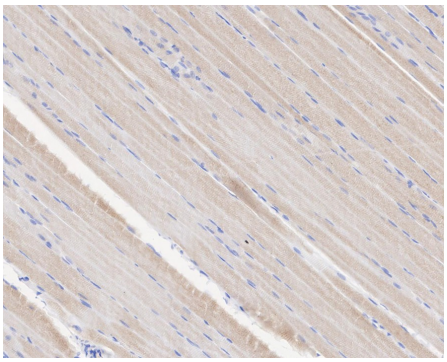

Fig4: Immunohistochemical analysis of paraffin-embedded rat skeletal muscle tissue with Rabbit anti-MUSK antibody (HA722010) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722010) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Rodolico C et al. MuSK-Associated Myasthenia Gravis: Clinical Features and Management. Front Neurol. 2020 Jul
2. Fish LA et al. Multiple MuSK signaling pathways and the aging neuromuscular junction. Neurosci Lett. 2020 Jul