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Musk Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8443b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q61006
Reactivity	Human, Rat, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,k
Clone Names	1429CT456.173.44
Calculated MW	96693
Antigen Region	600-860

Additional Information

Gene ID	18198
Other Names	Muscle, skeletal receptor tyrosine-protein kinase, Muscle-specific tyrosine-protein kinase receptor, MuSK, Muscle-specific kinase receptor, Musk, Nsk2
Target/Specificity	This mouse Musk antibody is generated from a mouse immunized with recombinant protein from mouse Musk.
Dilution	WB~~1：2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Musk Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Musk
Synonyms	Nsk2
Function	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.
Cellular Location	Postsynaptic cell membrane; Single-pass type I membrane protein. Note=Localizes to the postsynaptic cell membrane of the neuromuscular junction
Tissue Location	Expressed preferentially in skeletal muscle.

Background

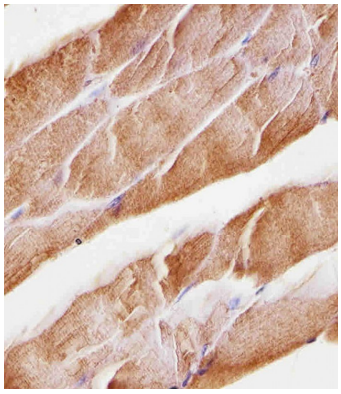
Receptor tyrosine kinase which plays a central role in the formation and the maintenance of the neuromuscular junction (NMJ), the synapse between the motor neuron and the skeletal muscle. Recruitment of AGRIN by LRP4 to the MUSK signaling complex induces phosphorylation and activation of MUSK, the kinase 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.

References

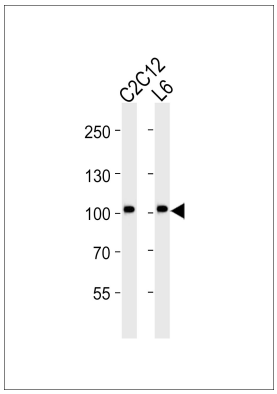
Caruso A.,et al.Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
Ganju P.,et al.Oncogene 11:281-290(1995).
DeChiara T.M.,et al.Cell 85:501-512(1996).
Glass D.J.,et al.Cell 85:513-523(1996).
Lin W.,et al.Nature 410:1057-1064(2001).

Images

Immunohistochemical analysis of paraffin-embedded M. skeletal muscle section using Musk Antibody(Cat#AM8443b). AM8443b was diluted at 1:25



dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



Western blot analysis of lysates from C2C12, L6 cell line (from left to right), using Musk Antibody(Cat. #AM8443b). AM8443b was diluted at 1:2000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysates at 20µg per lane.