

**MUSK Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7664D****Specification**

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**MUSK Antibody - Product Information**

Application	WB, IF, FC,E
Primary Accession	<a href="#">O15146</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	97056

**MUSK Antibody - Additional Information****Gene ID** 4593**Other Names**

Muscle, skeletal receptor tyrosine-protein kinase, Muscle-specific tyrosine-protein kinase receptor, MuSK, Muscle-specific kinase receptor, MUSK

**Target/Specificity**

This MUSK antibody is generated from rabbits immunized with human MUSK recombinant protein.

**Dilution**

WB~~1:1000  
IF~~1:10~50  
FC~~1:10~50  
E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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.

**MUSK Antibody - Protein Information****Name** MUSK

**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 (PubMed:[25537362](#)). 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 (By similarity).

#### **Cellular Location**

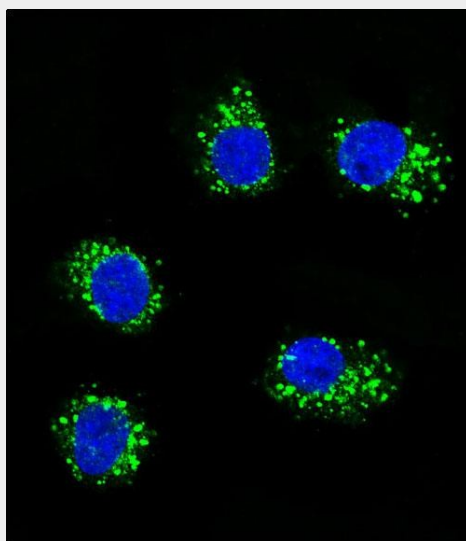
Postsynaptic cell membrane; Single-pass type I membrane protein. Note=Colocalizes with acetylcholine receptors (AChR) to the postsynaptic cell membrane of the neuromuscular junction

#### **MUSK Antibody - Protocols**

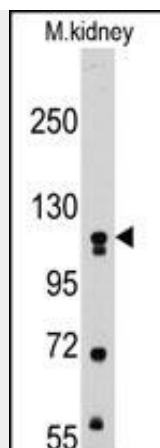
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

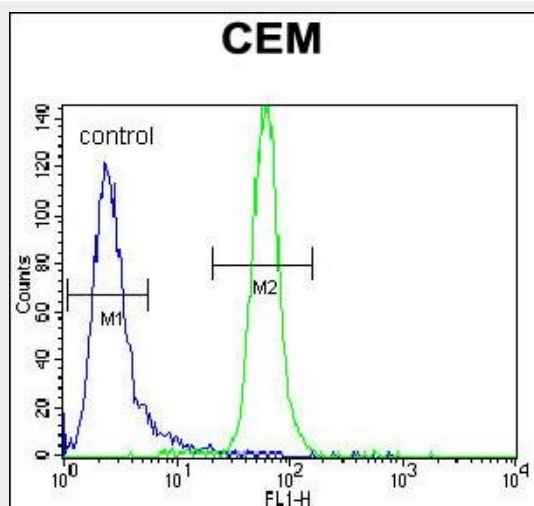
#### **MUSK Antibody - Images**



Confocal immunofluorescent analysis of MUSK Antibody(Cat#AP7664d) with MDA-MB231 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).DAPI was used to stain the cell nuclear (blue).



Western blot analysis of anti-MUSK Pab (Cat.#AP7664d) in mouse kidney tissue lysates (35ug/lane). MUSK(arrow) was detected using the purified Pab.



MUSK Antibody (Cat. #AP7664d) flow cytometric analysis of CEM cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

### MUSK Antibody - Background

MuSK activates signaling cascades responsible for many aspects of synapse formation, including the organization of the postsynaptic membrane, synapse-specific transcription, and presynaptic differentiation. MuSK also mediates agrin-induced aggregation of acetylcholine receptors at the mature vertebrate neuromuscular junction and also during synapse formation. It has been shown that a majority of AChR Ab-seronegative myasthenia gravis patients possess serum autoantibodies against MuSK.

### MUSK Antibody - References

- Blume-Jensen P, et al. Nature 2001. 411: 355.
- Cantrell D, J. Cell Sci. 2001. 114: 1439.
- Jhiang S Oncogene 2000. 19: 5590.
- Manning G, et al. Science 2002. 298: 1912.
- Moller, D, et al. Am. J. Physiol. 1994. 266: C351-C359.
- Robertson, S. et al. Trends Genet. 2000. 16: 368.
- Robinson D, et al. Oncogene 2000. 19: 5548.
- Van der Ven, P, et al. Hum. Molec. Genet. 1993. 2: 1889.

Vanhaesebroeck, B, et al. Biochem. J. 2000. 346: 561.

Van Weering D, et al. Recent Results Cancer Res. 1998. 154: 271.