

Datasheet for ABIN3109773

MUSK Protein (AA 24-869) (rho-1D4 tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	MUSK
Protein Characteristics:	AA 24-869
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MUSK protein is labelled with rho-1D4 tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	LPKAPVITTP LETVDALVEE VATFMCAVES YPQPEISWTR NKILIKLFD T RYSIRENGQL LTILSVEDSD DGIYCCTANN GVGGAVESCG ALQVKMKPKI TRPPINVKII EGLKAVLPCT TMGNPKPSVS WIKGDSPLRE NSRIAVLESG SLRIHNVQKE DAGQYRCVAK NSLGTAYSKV VKLEVEVFAR ILRAPESHNV TFGSFVTLHC TATGIPVPTI TWIENGNAVS SGSIQESVKD RVIDSRLQLF ITPGLYTIC ATNKHGEKFS TAKAAATISI AEWSKPQKDN KGYCAQYRGE VCNAVLAKDA LVFLNTSYAD PEEAQELLVH TAWNELKVVS PVC RPAAEAL LCNHIFQECS PGVVPTPIPI CREYCLAVKE LFCAKEWLVM EEKTHRGLYR SEMHLLSVPE CSKLPSMHWD PTACARLPHL DYNKENLKTF PPMTSSKPSV DIPNLPSSSS SSFSVSPTYS MTVIISIMSS FAIFVLLTIT TLYCCRRRKQ WKNKKRESAA VTLLTLPSEL LLDRLHPNPM YQRMPLLLNP KLLSLEYPRN NIEYVRDIGE GAFGRVFQAR APGLLPYEPF TMVAVKMLKE EASADMQADF QREAALMAEF DNPNI VKLLG VCAVGKPMCL LFEY MAYGDL NEFLRSMSPH TVCSLSHSDL SMRAQVSSPG PPPLSCAEQL CIARQVAAGM AYLSE RKFVH RDLATRNCLV GENMVVKIAD
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FGLSRNIYSA DYYKANENDA IPIRWMPPEs IFYNRYTTES DVWAYGVVLW EIFSYGLQPY
YGMACHEEVIY YVRDGNILSC PENCVELYN LMRLCWSKLP ADRPSFTSIH RILERMCERA EGTVSV

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human MUSK Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm.

The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells:

1. Membrane proteins are fractionated by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot.
2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot.
3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Product Details

Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

Target Details

Target:	MUSK
Alternative Name:	MUSK (MUSK Products)
Background:	<p>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). {ECO:0000250, ECO:0000269 PubMed:25537362}.</p>
Molecular Weight:	95.7 kDa Including tag.
UniProt:	O15146
Pathways:	RTK Signaling , Regulation of Muscle Cell Differentiation , Synaptic Membrane , Regulation of Cell Size , Skeletal Muscle Fiber Development

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
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Application Details

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process