

Datasheet for ABIN3093958 MUSK Protein (AA 24-495) (His tag)



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3 Images

Overview

Quantity:	1 mg
Target:	MUSK
Protein Characteristics:	AA 24-495
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MUSK protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	MLPKAPVITT PLETVDALVE EVATFMCAGE SYPQPEISWT RNKILIKLF DTRYISIRENG QLLTILSVE DSDDGIYCCT ANNGVGGAVE SCGALQVKMK PKITRPPINV KII EGLKAVL PCTTMGNPKP SVSWIKGDSP LRENSRIAVL ESGSLRIHNV QKEDAGQYRC VAKNSLGTAY SKVVKLEVEV FARILRAPES HNVTFGSFVT LHCTATGIPV PTITWIENG AVSSGSIQES VKDRVIDSRL QLFITKPGLY TCIATNKHGE KFSTAKAAAT ISIAEWSKPQ KDNKG YCAQY RGEVCNAVLA KDALVFLNTS YADPEEAQEL LVHTAWNELKV VSPVCRPAE ALLCNHIFQE CSPGVVPTPIP ICREYCLAVKE LFCAKEWLVME EKTHRG L YR SEMHLLSVPE CSKLPSMHWD PTACARLPHL DYNKENLKTF PPMTSSKPSVD IPNLPSSSSS SFSVSPTYSM THHHHHH
Characteristics:	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

Product Details

the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells: <ol style="list-style-type: none">1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
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:	52.8 kDa Including tag.

Target Details

UniProt:	O15146
Pathways:	RTK Signaling , Regulation of Muscle Cell Differentiation , Synaptic Membrane , Regulation of Cell Size , Skeletal Muscle Fiber Development

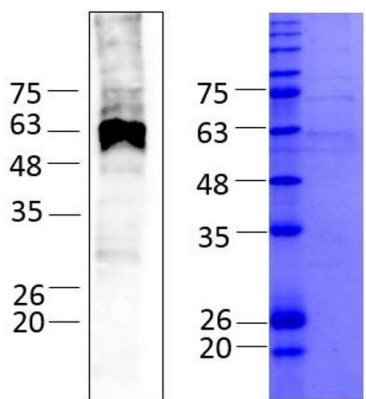
Application Details

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.
Comment:	C-terminal His-tag
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	20 mM Hepes, pH7.4; 100 mM NaCl
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images



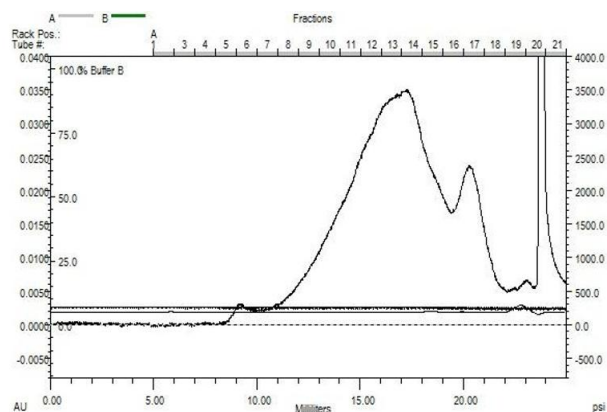
Muscle Skeletal Receptor Tyrosine Kinase
(AA 24 – 495), fraction 13 - 15

Western Blotting

Image 1. Quality Control Images: Western Blotting + SDS-PAGE



Image 2. „Crystallography Grade“ protein due to multi-step, protein-specific purification process



Muscle Skeleta Recptor Tyrosine Kinase (AA 24 - 495), gel filtration Superose 6, fraction 13 - 15

Size-exclusion chromatography-High Pressure Liquid Chromatography

Image 3. Gel filtration