Data Sheet (Cat.No.TMPH-02790)

TargetMol

MUSK Protein, Mouse, Recombinant (His & Myc & SUMO)

General Information

Synonyms:	Nsk2;Muscle, skeletal receptor tyrosine-protein kinase;Muscle-specific tyrosine-protein kinase receptor (MuSK;Muscle-specific kinase receptor);Musk;skeletal receptor tyrosine-protein kinase
Protein Construction:	22-494 aa
Species:	Mouse
Expression Host:	E. coli
Accession:	Q61006
Molecular Weight:	69.3 kDa (predicted)
AA Sequence:	EKLPKAPVITTPLETVDALVEEVATFMCAVESYPQPEISWTRNKILIKLFDTRYSIRENGQLLTILSVEDSDDGIYC CIANNGVGGAVESCGALQVKMKPKITRPPINVKIIEGLKAVLPCTTMGNPKPSVSWIKGDNALRENSRIAVLES GSLRIHNVQKEDAGQYRCVAKNSLGTAYSKLVKLEVEVFARILRAPESHNVTFGSFVTLRCTAIGIPVPTISWIE NGNAVSSGSIQESVKDRVIDSRLQLFITKPGLYTCIATNKHGEKFSTAKAAATVSIAEWSKSQKDSQGYCAQYR GEVCDAVLAKDALVFFNTSYRDPEDAQELLIHTAWNELKAVSPLCRPAAEALLCNHLFQECSPGVVPTPMPIC REYCLAVKELFCAKEWQAMEGKAHRGLYRSGMHLLPVPECSKLPSMHRDPTACTRLPYLDYKKENITTFPSIT SSRPSADIPNLPASTSSFAVSPAYSMT

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein 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.

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