

MUSK

muscle associated receptor tyrosine kinase

Recombinant Human Active Protein Kinase

HGNC Symbol: MUSK

Synonyms: n/a

Product No.: 0226-0000-3

Lot: 004

Description: Human MUSK, C-terminal fragment, amino acids R₅₂₉-V₈₆₉ (as in [NCBI/Protein](#) entry NP_005583.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: MUSK Lot 003, was confirmed as MUSK by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 68,345 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: in vitro auto activation

Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 15 mM reduced glutathione, 20 % glycerol

Storage temperature: -80°C

For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.566 µg/µl

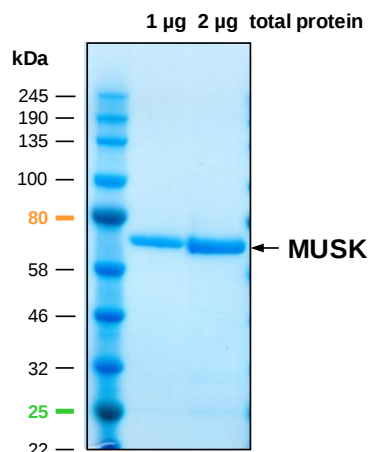
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

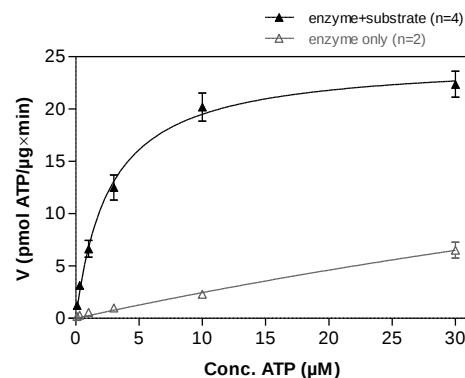
Specific kinase activity (P_i transfer): 25 pmol/µg × min

ATP-K_M: 2.7 µM

MUSK Lot 004: Coomassie stain



MUSK Lot 004: Determination of V_{max} and K_M value for ATP



Determination of K_M value & Specific activity:

- Assay conditions:
60 mM HEPES-NaOH, pH 7.5
3 mM MgCl₂
3 mM MnCl₂
3 µM Na-orthovanadate
1.2 mM DTT
50 µg/ml PEG_{20,000}
ATP (variable)
Substrate: Poly(Ala,Glu,Lys,Tyr)_{6:2:5:1} 40 µg/ml
Kinase: 1 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

Additional assay technology:

MUSK Lot 004 was also successfully tested by ProQinase for the use with the ADP-Glo™ Kinase assay from Promega
ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

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GST-MUSK Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARGMRES	AAVTLTTLPS	ELLDLRLHPN	PMYQRMPLLL	NPKLLSLEY	300
301	RNNIEYVRDI	GEGAFGRVFQ	ARAPGLLPYE	PFTMVAVKML	KEEASADMQA	DFQREAALMA	360
361	EFDNPNIVKL	LGVCAVGKPM	CLLFEYMAYG	DLNEFLRSMS	PHTVCSLSHS	DLSMRAQVSS	420
421	PGPPPLSCAE	QLCIARQVAA	GMAYLSERKF	VHRDLATRNC	LVGENMVVKI	ADFGLSRNIY	480
481	SADYYKANEN	DAIPIRWMP	ESIFYNRYTT	ESDVWAYGVV	LWEIFSGLQ	PYYGMAHEEV	540
541	IYYVRDGNIL	SCPENCVEL	YNLMRLCWSK	LPADRPSTFS	IHRILERMCE	RAEGTVSV	600

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: MUSK fragment

MUSK wt¹ Amino Acid Sequence

1	MRELVNIPLV	HILTLVAFSG	TEKLPKAPVI	TTPLETVDAL	VEEVATFMCA	VESYPQPEIS	60
61	WTRNKILIKL	FDTRYISIREN	GQLLTILSVE	DSDDGIYCCT	ANNGVGGAVE	SCGALQVKMK	120
121	PKITRPPINV	KIIEGLKAVL	PCTTMGNPKP	SVSWIKGDS	LRNSRIAVL	ESGSLRIHNV	180
181	QKEDAGQYRC	VAKNSLGTAY	SKVVKLEVEV	FARILRAPES	HNVTFGSFVT	LHCTATGIPV	240
241	PTITWIENG	AVSSGSIQES	VKDRVIDSRL	QLFITKPGLY	TCIATNKHGE	KFSTAKAAAT	300
301	ISIAEWSKPQ	KDNKGCAQY	RGEVCNAVLA	KDALVFLNTS	YADPEEAQEL	LVHTAWNELK	360
361	VVSPVCRPAA	EALLCNHIFQ	ECSPGVVPTP	IPICREYCLA	VKELFCAKEW	LVMEETHRG	420
421	LYRSEMHLIS	VPECSKLPSM	HWDPTACARL	PHLDYNKENL	KTFPPMTSSK	PSVDIPNLPS	480
481	SSSSFSVSP	TYSMTVIISI	MSSFAIFVLL	TITTLTYCCR	RKQWKNKKRE	SAAVTLTTL	540
541	SELLLDRLHP	NPMYQRMPL	LNPKLLSLEY	PRNNIEYVRD	IGEGAFGRVF	QARAPGLLPY	600
600	EPFTMVAVKM	LKEEASADMQ	ADFQREAALM	AEFDNPNIVK	LLGVCAVGKP	MCLLFEYMAY	660
661	GDNEFLRSM	SPHTVCSLSH	SDLSMRAQVS	SPGPPPLSCA	EQLCIARQVA	AGMAYLSERK	720
721	FVHRDLATRN	CLVGENMVVK	IADFGLSRNI	YSADYYKANE	NDAIPIRWMP	PESIFYNRYT	780
781	TESDVWAYGV	VLWEIFSGL	QPYGMAHEE	VIYYVRDGN	LSCPENCVE	LYNLMRLCWS	840
841	KLPADRPSTF	SIHRILERMC	ERAEGTVSV				900

blue: MUSK sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_005583.1

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