

MUSK

muscle associated receptor tyrosine kinase

Recombinant Human Active Protein Kinase

HGNC Symbol: MUSK

Synonyms: n/a

Product No.: 0226-0000-3

Lot: 003

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 Western blotting using a MUSK specific antibody

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 TRIS-HCl pH 8.0, 100 mM NaCl, 5 mM DTT, 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: 0.159 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

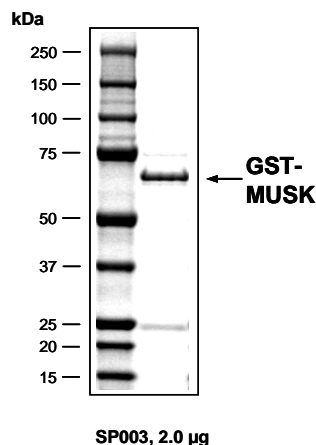
Biochemical Parameters:

Specific kinase activity (P_i transfer): 19 pmol/µg × min
ATP-K_M: 33 µM

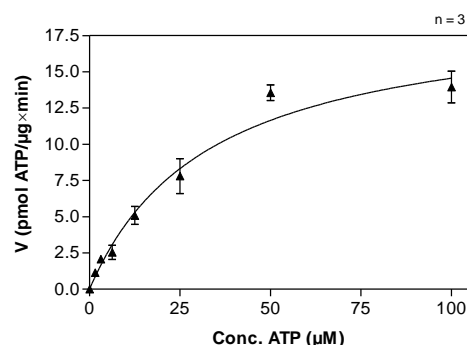
Additional assay technology:

MUSK Lot 003 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

MUSK Lot 003: Coomassie stain



MUSK Lot 003: 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} 80 µg/ml
 - Kinase: 4 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

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GST-MUSK Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGQWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARGMRES	AAVTLTTLPS	ELLLDRLHPN	PMYQRMPPLL	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	LPADRPSFTS	IHRILERMCE	RAEGTVSV	600

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

MUSK wt ¹ Amino Acid Sequence							
1	MRELVNIPLV	HILTLVAFSG	TEKLPKAPVI	TTPLETVDAL	VEEVATFMCA	VESYPQPEIS	60
61	WTRNKILIKL	FDTRYISIREN	GQLLTILSVE	DSDDGIYCCT	ANNGVGGAVE	SCGALQVKMK	120
121	PKITRPPINV	KIIEGLKAVL	PCTTMGNPKP	SVSWIKGDSP	LRENSRIAVL	ESGSLRIHNV	180
181	QKEDAGQYRC	VAKNSLGTAY	SKVVKLEVEV	FARILRAPES	HNVTFGSFVT	LHCTATGIPV	240
241	PTITWIENGN	AVSSGSIQES	VKDRVIDSRL	QLFITKPGLY	TCIATNKHGE	KFSTAKAAAT	300
301	ISIAEWSKPQ	KDNKGCAQY	RGEVCNAVLA	KDALVFLNTS	YADPEEAQEL	LVHTAWNELK	360
361	VVSPVCRPAA	EALLCNHIFQ	ECSPGVVPTP	IPICREYCLA	VKELFCAKEW	LVMEEKTHRG	420
421	LYRSEMHLIS	VPECSKLPSP	HWDPTACARL	PHLDYNKENL	KTFFPMTSSK	PSVDIPNLPS	480
481	SSSSFSVSP	TYSMTVIISI	MSSFAIFVLL	TITTLYCCRR	RKQWKNNKRE	SAAVTLTTL	540
541	SELLLDRLHP	NPMYQRMPLL	LNPKLLSLEY	PRNNIEYVRD	IGEGAFGRVF	QARAPGLLPY	600
600	EPFTMVAVKM	LKEEASADMQ	ADFQREAALM	AEFDNPNIVK	LLGVCVAVGK	MCLLFEYMAY	660
661	GDLNEFLRSM	SPHTVCSLSH	SDLSMRAQVS	SPGPPPLSCA	EQLCIARQVA	AGMAYLSERK	720
721	FVHRDLATRN	CLVGENMVVK	IADFGLSRNI	YSADYYKANE	NDAIPIRWMP	PESIFYNRYT	780
781	TESDVWAYGV	VLWEIFSGL	QPYGMAHEE	VIYYVRDGN	LSCPENCPE	LYNLMRLCWS	840
841	KLPADRPSFT	SIHRILERMC	ERAEGTVSV				900

blue: MUSK sequence expressed in recombinant protein

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

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