

## ProQinase™ 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 R<sub>529</sub>-V<sub>869</sub> (as in [NCBI/Protein](#) entry NP\_005583.1), N-terminal GST-HIS<sub>6</sub> 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<sub>Fusion Protein</sub>:** 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)

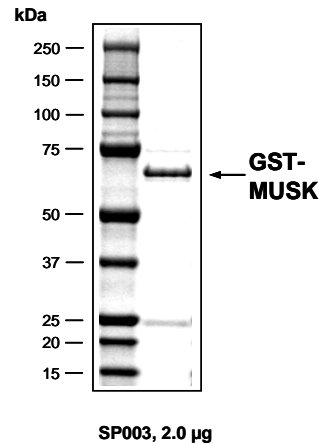
### Biochemical Parameters:

Specific kinase activity (P<sub>i</sub> transfer): 19 pmol/µg × min  
ATP-K<sub>M</sub>: 33 µM

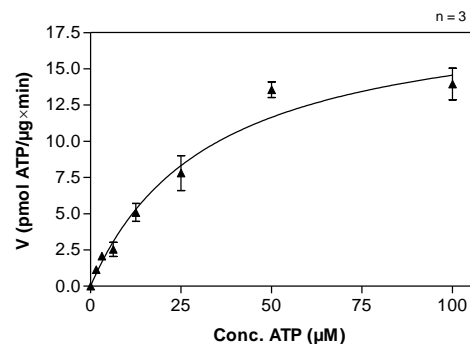
### Additional assay technology:

MUSK Lot 003 was also successfully tested by Reaction Biology 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<sub>max</sub> and K<sub>M</sub> value for ATP



### Determination of K<sub>M</sub> value & Specific activity:

- Assay conditions:
  - 60 mM HEPES-NaOH, pH 7.5
  - 3 mM MgCl<sub>2</sub>
  - 3 mM MnCl<sub>2</sub>
  - 3 µM Na-orthovanadate
  - 1.2 mM DTT
  - 50 µg/ml PEG<sub>20,000</sub>
  - ATP (variable)
  - Substrate: Poly(Ala,Glu,Lys,Tyr)<sub>6,2,5,1</sub> 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	KGLVQPTRLL	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	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	LPADRPSFTS	IHRILERMCE	RAEGTVSV	600

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

MUSK wt <sup>1</sup> Amino Acid Sequence							
1	MRELVNIPLV	HILTLVAFSG	TEKLPKAPVI	TTPLETVDAL	VEEVATFMCA	VESYPQPEIS	60
61	WTRNKILIKL	FDTRYSIREN	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	KTFPPMTSSK	PSVDIPNLPS	480
481	SSSSFSVSP	TYSMTVIISI	MSSFAIFVLL	TITTLTYCCR	RKQWKNNKRE	SAAVTLTTL	540
541	SELLLDRLHP	NPMYQRMPL	LNPKLLSLEY	PRNNIEYVRD	IGEGAFGRVF	QARAPGLLPY	600
600	EPFTMVAVKM	LKEEASADMQ	ADFQREAALM	AEFDNPNIVK	LLGVCVAVGK	MCLLFEYMAY	660
661	GDLNEFLRSM	SPHTVCSLSH	SDLSMRAQVS	SPGPPPLSCA	EQLCIARQVA	AGMAYLSERK	720
721	FVHRDLATRNC	CLVGENMVVK	IADFGLSRNI	YSADYYKANE	NDAIPIRWMP	PESIFYNRYT	780
781	TESDVWAYGV	VLWEIFSGL	QPYGMAHEE	VIYYVRDGN	LSCPENCVE	LYNLMRLCWS	840
841	KLPADRPSFT	SIHRILERMC	ERAEGTVSV				900

blue: MUSK sequence expressed in recombinant protein

<sup>1</sup>NCBI/Protein accession number NP\_005583.1