

ProQinase™ MYLK2

Myosin light chain kinase 2

Recombinant Human Active Protein Kinase

HGNC Symbol: MYLK2

Synonyms: skMLCK; KMLC, MLCK

Product No.: 0445-0000-1

Lot: 001

Description: Human MYLK2, C/N/internal fragment, amino acids M₁-V₅₉₆ (as in NCBI/Protein entry NP_149109.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: MYLK2 Lot 001, was confirmed as MYLK2 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 95,209 Da

Expression: Baculovirus infected Sf9 cells

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM Tris-HCl pH 8.0, 100 mM NaCl, 5 mM DTT, 4 mM reduced glutathione, 20% glycerol

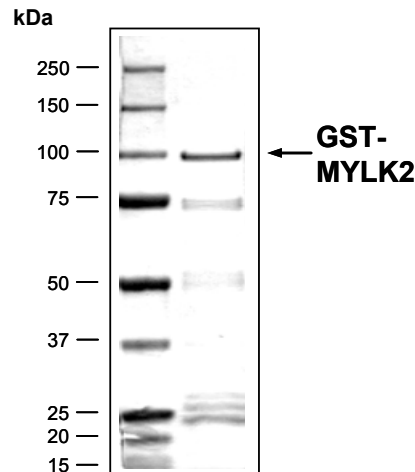
Storage temperature: -80°C
Avoid repeated freeze-thaw cycles!

Protein concentration: 0.154 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

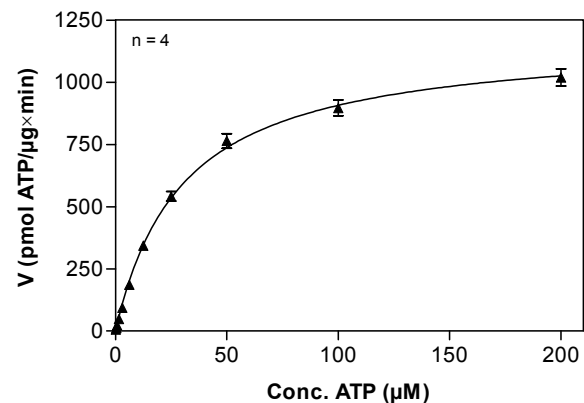
Specific kinase activity (P_i transfer): 1180 pmol/µg×min
ATP-K_M: 30 µM

MYLK2 Lot 001: Coomassie stain



2.0 µg GST-MYLK2

MYLK2 Lot 001: 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: MLC-derived peptide (KKRPQRATSNVFS), 160 µg/ml
 - MYLK2: 1.0 µg / ml
- Filter binding assay
 - MSFC membrane (Millipore)

Additional assay technology: MYLK2 Lot 001

was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details



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MYLK2 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARGIQAS	MGARGRMATE	NGAVELGIQN	PSTDKAPKGP	TGERPLAAGK	300
301	DPGPPDPKKA	PDPPTLKKDA	KAPASEKGDG	TLAQPSTSSQ	GPKGEGDRGG	GPAEGSAGPP	360
361	AALPQQTATP	ETSVKKPKAE	QGASGSQDPG	KPRVGKAAE	GQAAARRGSP	AFLHSPSCPA	420
421	IISSEKLLA	KKPPSEASEL	TFEGVPMTHS	PTDPRPAKAE	EGKNILAESQ	KEVGEKTPGQ	480
481	AGQAKMQGDT	SRGIEFQAVP	SEKSEVGOAL	CLTAREEDCF	QILDDCPPP	APFPHRMVEL	540
541	RTGNVSSEFS	MNSKEALGGG	KFGAVCTCME	KATGLKLAAK	VIKQTPKDK	EMVLLIEVM	600
601	NQLNHRNLIQ	LYAAIETPHE	IVLFMEYIEG	GELFERIVDE	DYHLTEVDTM	VFVRQICDGI	660
661	LFMHKMRVLH	LDLKPENILC	VNTTGHVVKI	IDFGLARRYN	PNEKLVNFG	TPEFLSPEVV	720
721	NYDQISDKTD	MWSMGVITYM	LLSGLSPFLG	DDDTEFLNNV	LSGNWYFDEE	TFEAVSDEAK	780
781	DFVSNLIVKD	QRARMNAQC	LAHPWLNNLA	EKAKRCNRRL	KSQILLKKYL	MKRRWKNFI	840
841	AVSAANRFKK	ISSGALMAL	GV				900

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: MYLK2

MYLK2 wt ¹ amino acid sequence							
1	MATENGAVEL	GIQNPSTDKA	PKGPTGERPL	AAGKDPGPPD	PKKADPPTL	KKDAKAPASE	60
61	KGDGTLAQPS	TSSQGPKEG	DRGGPAEGS	AGPPAALPQQ	TATPETS VKK	PKAEQGASGS	120
121	QDPGKPRVGK	KAAEQAAAR	RGSPAFLHSP	SCPATISSSE	KLLAKKPPSE	ASELTFEGVP	180
181	MTHSPTDPRP	AKAEEGKNIL	AESQKEVGEK	TPGQAGQAKM	QGDSRGIEF	QAVPSEKSEV	240
241	GQALCLTARE	EDCFQILDDC	PPPPAPFPHR	MVELRTGNVS	SEFSMNSKEA	LGGGKFGAVC	300
301	TCMEKATGLK	LAAKVIKQQT	PKDKEMVLE	IEVMNQLNHR	NLIQLYAAIE	TPHEIVLFME	360
361	YIEGGELFER	IVDEDYHLTE	VDTMVFVRQI	CDGILEFMHKM	RVLHLDLKE	NILCVNTTGH	420
421	LVKIIDFGLA	RRYNPNEKLN	VNFGTPEFLS	PEVVNYDQIS	DKTDMWSMGV	ITYMLLSGLS	480
481	PFLGDDDTET	LNNVLSGNWY	FDEETFEAVS	DEAKDFVSNL	IVKDQRARMN	AAQCLAHPLW	540
541	NNLAEKAKRC	NRRLKSQILL	KKYLMKRRWK	KNFIAVSAAN	RFKISSSGA	LMALGV	600

blue: MYLK2 sequence expressed in fusionprotein

¹NCBI/Protein accession number NP_149109.1

Recombinant Proteins