

MST1

serine/threonine kinase 4 (STK4)

Recombinant Human Active Protein Kinase

HGNC Symbol: STK4

Synonyms: KRS2, YSK3

Product No.: 0667-0000-1

Lot: 002

Description: Human MST1, amino acids T₃-F₄₈₇ (as in [NCBI/Protein](#) entry NP_006273.1), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

Product identity: MST1, Lot 002, was confirmed as MST1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 86,340 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 4 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: 0.306 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

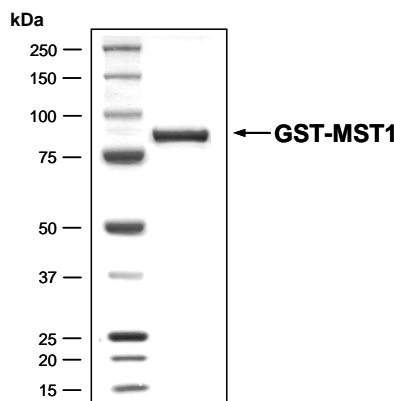
Biochemical Parameters:

Specific kinase activity (P_i transfer): 322 pmol/µg × min
ATP-K_M: 0.8 µM

Additional assay technology:

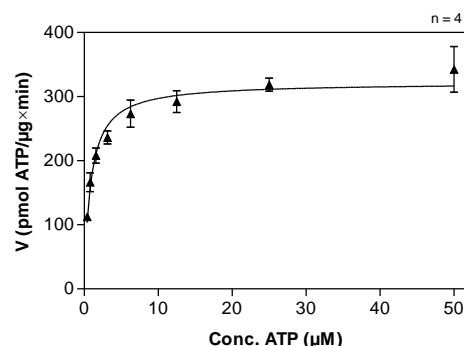
MST1 Lot 002 was also successfully tested by ProQinase for the use with the ADP-Glo™ Kinase assay from Promega
ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

MST1 Lot 002: Coomassie stain



2.0 µg GST-MST1

MST1 Lot 002: 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: Myelin Basic Protein 100 ng/ml
 - MST1: 0.5 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

MST1

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GST-MST1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG HHHHHG	RRRASVAAGI	240
241	LVPRG SPGLD	GIYARDS LEV	LFQGPL AML T	VQLRNPPRRQ	LKKLDEDSL	KQPEEVFV DL	300
301	EKLGE SYGS	VYKAIH KETG	QIVAIK QVPV	ESDLQE IIKE	ISIMQQ CDSP	HVVKY GSYF	360
361	KNTDL WIVME	YCGAG SVSDI	IRLRN KTLTE	DEIATI LQST	LKGLEY LHFM	RKIHR DIKAG	420
421	NILLN TEGHA	KLADF GVAGQ	LTDTM AKRNT	VIGTP FWMAP	EVIQE IGYNC	VADIW SLGIT	480
481	AIEMA EKGPP	YADIH PMRAI	FMIPT NPPPT	FRKPE LWSDN	FTDFV KQCLV	KSPEQ RATAT	540
541	QLLQH PFVRS	AKGVS ILRDL	INEAM DVKLK	RQESQ QREVD	QDDEE NSEED	EMDSG TMVRA	600
600	VGDEM GTVRV	ASTMT DGANT	MIEHD DTLPS	QLGTM VINAE	DEEEE GTMKR	RDETM QPAK	660
661	SFLEY FEQE	KENQ INSFGK	SVPG LKNSS	DWKIP QGDY	EFLKS WTVED	LQKRL LALDP	720
721	MMEQE IEEIR	QKYQ SKRQPI	LDAIE AKRR	QQNF			780

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **Green**: 3C cleavage site **blue**: MST1 **boxed**: variation from RefSeq

MST1 wt ¹ Amino Acid Sequence							
1	ME T V Q LRNPP	RR Q LK L DED	SL T K Q PEEVF	DV L E K L G EGS	Y G SV Y K A I H K	ET G Q I V A I K Q	60
61	VP V ESDL Q EI	I K EISIM Q QC	DS P H V V K Y Y G	SY F K N TDL W I	VM E Y C G A GSV	SD I IR L R N K T	120
121	L T ED E I A T I L	Q S T L K G L E Y L	H F M R K I H R D I	K A G N ILL N T E	G H A K L A D F G V	AG Q L T D T M A K	180
181	R N T V I G T P F W	M A P E V I Q E I G	Y N C V A D I W S L	G I T A I E M A E G	K P P Y A D I H P M	R A I F M I P T N P	240
241	P P T F R K P E L W	S D N F T D F V K Q	C L V K S P E Q R A	T A T Q L L Q H P F	V R S A K G V S I L	R D L I N E A M D V	300
301	K L K R Q E S Q Q R	E M D Q D E E N S	E E D E M D S G T M	V R A V G D E M G T	V R V A S T M T D G	A N T M I E H D D T	360
361	L P S Q L G T M V I	N A E D E E E E G T	M K R R D E T M Q P	A K P S F L E Y F E	Q K E K E N Q I N S	F G K S V P G P L K	420
421	N S S D W K I P Q D	G D Y E F L K S W T	V E D L Q K R L L A	L D P M M E Q E I E	E I R Q K Y Q S K R	Q P I L D A I E A K	480
481	K R R Q Q N F						540

blue: MST1 sequence expressed in recombinant protein **Red**: variant in recombinant protein

¹[NCBI/Protein](#) accession number NP_006273.1

M312V: SNP variation see [NCBI/dbSNP](#) ID: rs17420378

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