

MASTL

microtubule associated serine/threonine kinase-like

Recombinant Human Active Protein Kinase

HGNC Symbol: MASTL

Synonyms: GLW, GREATWALL, GW, GWL, hGWL, MAST-L, THC2

Product No.: 1593-0000-2

Lot: 002

Description: Human MASTL, full length, amino acids M₁-L₈₇₉ (as in [NCBI/Protein](#) entry NP_116233.2), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

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

Theoretical MW_{Fusion Protein}: 126,196 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: By ocaidaic acid treatment of the expressing cells

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: 0.267 µg/µl

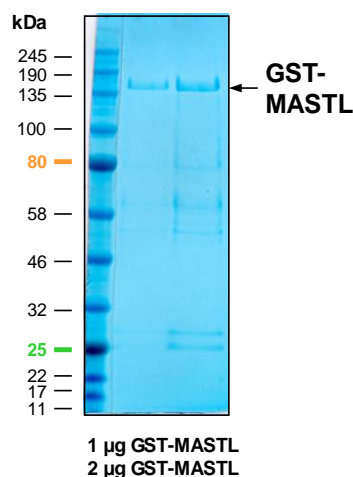
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

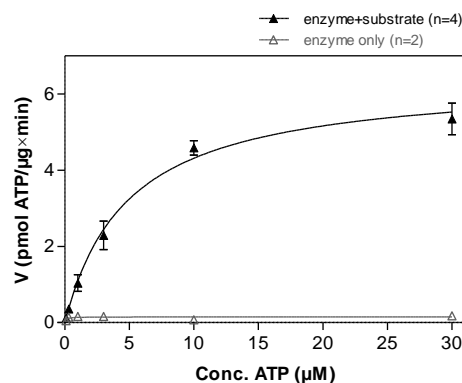
Specific kinase activity (P_i transfer): 6.4 pmol/µg × min

ATP-K_M: 4.9 µM

MASTL Lot 002:
Coomassie stain



MASTL 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: TRK-C derived peptide 40 µg/ml
 - Kinase: 2 µg/ml
- Filter binding assay
 - MSPH membrane (Millipore)

Additional assay technology:

MASTL 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

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GST-MASTL Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI	PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG HHHHHG	240
241	PLAMGARGRM	DPTAGSKKEP	GGGAATEEGV	NRIAVPKPPS	IEEFSIVKPI	SRGAFGKVVYL	300
301	GQKGGKLYAV	KVVKKADMIN	KNMTHQVQAE	RDALALS	KSP	FIVHLYYSLQ	360
361	YLIGGDVKS	LHIYGYFDEE	MAVKYISEVA	LALDYLRHG	IIHRDLKPDN	MLISNEGHK	420
421	LTD	FGLSKVT	LNRDINMMDI	LTPPSMAKPR	QDYSRTPGQV	LSLISSLGFN	480
481	ANILSACLSE	TSQLSQGLVC	PMSVDQKDTT	PYSSKLLKSC	LETVASNPGM	PVKCLTSNLL	540
541	QSRKRLATSS	ASSQSHTFIS	SVESECHSSP	KWEKDCQESD	EALGPTMMSW	NAVEKLC	600
601	ANAIETKGFN	KKDLELALSP	IHNSSALPT	GRSCVNLA	K	CFSGEVSWEA	660
661	DTD	TSQGLV	QSNQWAVDSG	GISEEHLGKR	SLKRN	FELVD	720
721	EMTNCYTNQ	TGLTVEVQDL	KLSVHKSQQN	DCANKENIVN	SFTDKQQTPE	KLPIPMIAKN	780
781	LMCELEDC	E	KNSKR	DYLS	SFLCSDDDRA	SKNISMNSDS	840
841	RSIKESSFEE	SNIEDPLIVT	PDCQEKTS	A	GVENPAVQES	NQKMLGPPLE	900
901	AVAFRSFN	SH	INASN	SEPS	RMNMTSLDAM	DISCAYSGSY	960
961	NQIKSGTPYR	TPKSVRRGVA	PVDDGRILGT	PDYLAPELLL	GRAHGPAVDW	WALGVCLFEF	1020
1021	LTGIPPFNDE	TPQQVFQNIL	KRDIPWPEGE	EKLSDNAQSA	VEILLTIDDT	KRAGMKELKR	1080
1081	HPLFSDVDWE	NLQHQTMPFI	POPDETDTS	YFEARNTAQH	LTVSGFSL		1140

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: MASTL boxed: variation from RefSeq

MASTL wt ¹ Amino Acid Sequence							
1	MDPTAGSKKE	PGGGAATEEG	VNRIAVPKPP	SIEEFSIVKP	ISRGAFGKVY	LGQKGGKLYA	60
61	VKVVKKADMI	NKNMTHQVQA	ERDALALS	SKS	PFIVHLYYSL	QSANNVYLM	120
121	LLHIYGYFDE	EMAVKYISEV	ALALDYLRH	GIIHRDLKPD	NMLISNEGHI	KLTD	180
181	TLNRDINMMD	ILTTPSMAK	P	RQDYSRTPGQ	VLSLISSLGF	NTPIAEKNQD	240
241	ETSQLSQGLV	CPMSVDQKDT	TPYSSKLLKS	CLETVASNPG	MPVKCLTSNL	LQSRKRLATS	300
301	SASSQSHTFI	SSVESECHSS	PKWEKDCQES	DEALGPTMMS	WNAVEKLC	AK	360
361	NKKDLELALS	PIHNSSALPT	TGRSCVNLA	K	CFSGEVSWE	AVELDVNNIN	420
421	HQSNQWAVDS	GGISEEHLGK	RSLKRN	FELV	DSSPCKKIQ	NKKT	480
481	NTGLTVEVQD	LKLSVHKSQQ	NDCANKENIV	NSFTDKQQTPE	EKLPIPMIAK	NLMCELEDC	540
541	EKNSKR	DYLS	SSFLCSDDDR	ASKNISMNSD	SSFPGISIME	SPLESQPLDS	600
601	ESNIEDPLIV	TPDCQEKTS	P	KGVENPAVQE	SNQKMLGPP	LE	660
661	HINASNNSEP	SRMNTSLDA	MDISCAYSGS	YPMAITPTQK	RRSCMPHQT	P	720
721	TPKSVRRGVA	PVDDGRILGT	PDYLAPELLL	GRAHGPAVDW	WALGVCLFEF	LTGIPPFNDE	780
781	TPQQVFQNIL	KRDIPWPEGE	EKLSDNAQSA	VEILLTIDDT	KRAGMKELKR	HPLFSDVDWE	840
841	NLQHQTMPFI	POPDETDTS	YFEARNTAQH	LTVSGFSL			900

blue: MASTL sequence expressed in recombinant protein Red: variant in recombinant protein

¹NCBI/Protein accession number NP_116233.2
P620A: SNP variation see NCBI/dbSNP ID: rs3802526

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