

ProQinase™ TTK

TTK protein kinase

Recombinant Human Active Protein Kinase

HGNC Symbol: TTK

Synonyms: ESK; MPS1; MPS1L1; PYT

Product No.: 0284-0000-1

Lot: 003

Description: Human TTK, full length, amino acids M₁-K₈₅₇ (as in NCBI/Protein entry NP_003309.2), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: TTK Lot 003, was confirmed as TTK by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 126,968 Da

Expression: Baculovirus infected Sf9 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: 0.064 µg/µl

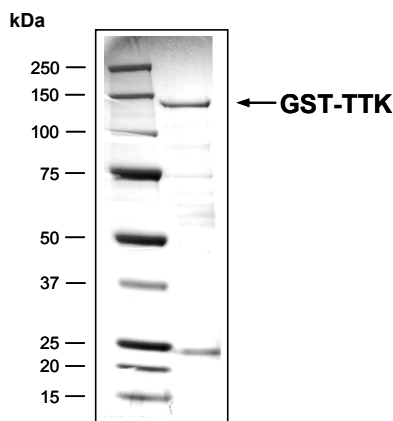
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

Specific kinase activity (P_i transfer): 4 pmol/µg×min

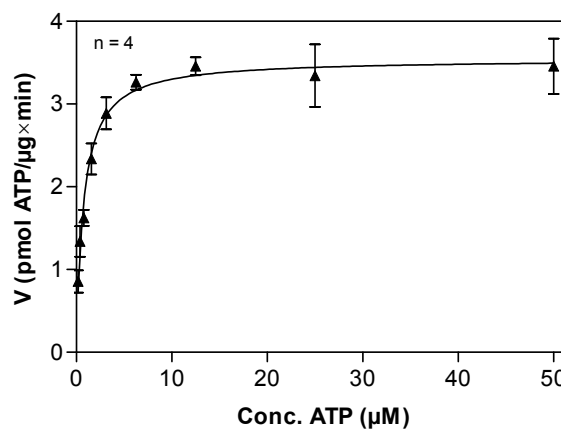
ATP-K_M: 0.7 µM

TTK Lot 003:
Coomassie stain



2.0 µg GST-TTK

TTK 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: RBER-CHKtide (ProQinase# 0581-0000-5), 40 µg / ml
 - TTK: 4.0 µg / ml
- Filter binding assay
 - MSFC membrane (Millipore)

Recombinant Proteins

ProQinase™ TTK

Product No.: 0284-0000-1

TTK Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGWYKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGS PGLD	GIYARGIQAS	MESEDLSGRE	LTIDSIMNKV	RDIKNKFKN E	DLTDELSLNK	300
301	ISADTTD NSG	TVNQIMM MAN	NPEDWLSLLL	KLEKNSVPLS	DALLNKLIGR	YSQAIEALPP	360
361	DKYGQNESFA	RIQVRFAELK	AIQEPDDARD	YFQMARANCK	KFAFVHISFA	QFELSQGNVK	420
421	KSKQLLQKAV	ERGAVPLEML	EIALRNLNLQ	KKQLLSEEEK	KNLSASTVLT	AQESFSGSLG	480
481	HLQNRNNSCD	SRGQTTKARF	LYGENMPPQD	AEIGYRNSLR	QTNKTKQSCP	FGRVPVNL LN	540
541	SPDCDVKTDD	SVVPCFMKRQ	TSRSECRDLV	VPGSKPSGND	SCELRNLKSV	QNSHFKEPLV	600
601	SDEKSSELII	TDSITLKNKT	ESSLLAKLEE	TKEYQEPEVP	ESNQKQWQSK	RKSECINQNP	660
661	AASSNHWQIP	ELARKVNTEQ	KHTTFEQPVF	SVSKQSPPI S	TSKWFDPKSI	CKTPSSNTLD	720
721	DYMSCFRTPV	VKNDFPPACQ	LSTPYGQPAC	FQQQQHQILA	TPLQNLQVLA	SSSANECISV	780
781	KGRIYSILKQ	IGSGGSSKVF	QVLNEKKQIY	AIKYVNLEEA	DNQTLDSYRN	EIAYLNKLOQ	840
841	HSDKIIRLYD	YEITDQYIYM	VMECGNIDL N	SWLKKKSID	PWERKSYWKN	MLEAVHTI HQ	900
901	HGIVHSDLKP	ANFLIVDGML	KLIDFGIANQ	MQPDTTSVVK	DSQVGTVNYM	PPEAIKDMSS	960
961	SRENGKSKSK	ISPKSDVWSL	GCILYYMTYG	KTPFQQIINQ	ISKLHAIIDP	NHEIEFPDIP	1020
1021	EKDLQDVLKC	CLKRDPKQRI	SIPELLAHPY	VQIQTHPVNQ	MAKGTTEEMK	YVLGQLVGLN	1080
1081	SPNSILKAAK	TLYEHYSGGE	SHNSSSSKTF	EKKRGKK			1140

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

TTK wt ¹ Amino Acid Sequence							
1	MESEDLSGRE	LTIDSIMNKV	RDIKNKFKN E	DLTDELSLNK	ISADTTD NSG	TVNQIMM MAN	60
61	NPEDWLSLLL	KLEKNSVPLS	DALLNKLIGR	YSQAIEALPP	DKYGQNESFA	RIQVRFAELK	120
121	AIQEPDDARD	YFQMARANCK	KFAFVHISFA	QFELSQGNVK	KSKQLLQKAV	ERGAVPLEML	180
181	EIALRNLNLQ	KKQLLSEEEK	KNLSASTVLT	AQESFSGSLG	HLQNRNNSCD	SRGQTTKARF	240
241	LYGENMPPQD	AEIGYRNSLR	QTNKTKQSCP	FGRVPVNL LN	SPDCDVKTDD	SVVPCFMKRQ	300
301	TSRSECRDLV	VPGSKPSGND	SCELRNLKSV	QNSHFKEPLV	SDEKSSELII	TDSITLKNKT	360
361	ESSLLAKLEE	TKEYQEPEVP	ESNQKQWQSK	RKSECINQNP	AASSNHWQIP	ELARKVNTEQ	420
421	KHTTFEQPVF	SVSKQSPPI S	TSKWFDPKSI	CKTPSSNTLD	DYMSCFRTPV	VKNDFPPACQ	480
481	LSTPYGQPAC	FQQQQHQILA	TPLQNLQVLA	SSSANECISV	KGRIYSILKQ	IGSGGSSKVF	540
541	QVLNEKKQIY	AIKYVNLEEA	DNQTLDSYRN	EIAYLNKLOQ	HSDKIIRLYD	YEITDQYIYM	600
601	VMECGNIDL N	SWLKKKSID	PWERKSYWKN	MLEAVHTI HQ	HGIVHSDLKP	ANFLIVDGML	660
661	KLIDFGIANQ	MQPDTTSVVK	DSQVGTVNYM	PPEAIKDMSS	SRENGKSKSK	ISPKSDVWSL	720
721	GCILYYMTYG	KTPFQQIINQ	ISKLHAIIDP	NHEIEFPDIP	EKDLQDVLKC	CLKRDPKQRI	780
781	SIPELLAHPY	VQIQTHPVNQ	MAKGTTEEMK	YVLGQLVGLN	SPNSILKAAK	TLYEHYSGGE	840
841	SHNSSSSKTF	EKKRGKK					900

blue: TTK sequence expressed in fusionprotein

¹NCBI/Protein accession number NP_003309.2

Recombinant Proteins