

ProQinase™ TTBK1 1-480

tau tubulin kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: TTBK1

Synonyms: BDTK

Product No.: 1731-0000-1

Lot: 001

Description: Human TTBK1, N-terminal fragment, amino acids M₁-L₄₈₀ (as in [NCBI/Protein](#) entry NP_115927.1), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

Product identity: TTBK1 1-480 Lot 001, was confirmed as TTBK1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 82,158 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, 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: 0.577 µg/µl

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

Biochemical Parameters:

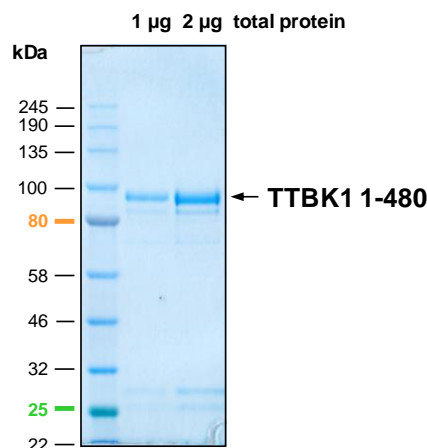
Specific kinase activity (P_i transfer): 2.6 pmol/µg × min

ATP-K_M: 0.06 µM

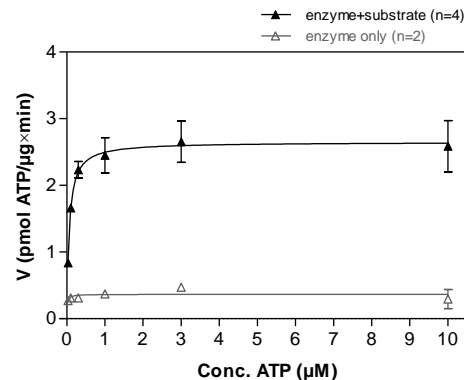
Additional assay technology:

TTBK1 1-480 Lot 001 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

TTBK1 1-480 Lot 001:
Coomassie stain



TTBK1 1-480 Lot 001:
Determination of V_{max} and K_M value for ATP



- 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: GSK3-derived peptide 2.5 µg/ml
Kinase: 1 µg/ml
- Filter binding assay
MSIP membrane (Millipore)

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GST-Kinase Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVLFCG	240
241	MQCLAAALK	DETNSGGGE	QADILPANYV	VKDRWVLLKK	IGGGGFGEIY	EAMDLLTREN	300
301	VALKVEAQQ	PKQVLKMEVA	VLKKLQKDH	VCRFIGCGRN	EKFNYVVMQL	QGRNLADLR	360
361	SQPRGTFITLS	TTLRLGKQIL	ESIEAIHVS	FLHRDIKPSN	FAMGRLPSTY	RKCYMLDFGL	420
421	ARQYTNITGD	VRPPRVAGF	RGTVRYASVN	AHKNREMGRH	DDLWSLFYML	VEFAVGQLPW	480
481	RKIKDKQVQ	MIKEYEHRM	LLKHPSEFH	LFLDHIASLD	YFTKPDYQLI	MSVFENSMKE	540
541	RGIAENEAFD	WEKAGTDALL	STSTSTPPQQ	NTRQTAAMFG	VVNVTPVPGD	LLRENTEDVL	600
601	QGEHLSDQEN	APPILPGRPS	EGLGSPHLV	PHPGGPEAEV	WEETDVNRNK	LRINIGKSPC	660
661	VEEQSRGMG	VPSSPVRAPP	DSPTTPVRS	RYRRVNSPES	ERLSTADGRV	ELPERRSRMD	720
721	L						780

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: TTBK1 fragment

TTBK1 wt ¹ Amino Acid Sequence							
1	MQCLAAALKD	ETNSGGGGEQ	ADILPANYVV	KDRWVLLKKI	GGGGFGEIYE	AMDLLTRENV	60
61	ALKVESAQQP	KQVLKMEVAV	LKKLQKGDHV	CRFIGCGRNE	KFNYVVMQLQ	GRNLADLR	120
121	QPRGTFITLST	TLRLGKQILE	SIEAIHVS	LHRDIKPSNF	AMGRLPSTYR	KCYMLDFGLA	180
181	RQYTNITGDV	RPPRVAGFR	GTVRYASVNA	HKNREMGRHD	DLWSLFYMLV	EFAVGQLPWR	240
241	KIKDKQVGM	IKEYEHRML	LKHPSEFHL	FLDHIASLDY	FTKPDYQLIM	SVFENSMKER	300
301	GIAENEAFDW	EKAGTDALLS	TSTSTPPQQN	TRQTAAMFGV	VNVTPVPGDL	LRENTEDVLQ	360
361	GEHLSDQENA	PPILPGRPSE	GLGSPHLVP	HPGGPEAEVW	EETDVNRNKL	RINIGKSPCV	420
421	EEEQSRGMGV	PSSPVRAPPD	SPTTPVRSR	YRRVNSPESE	RLSTADGRVE	LPERRSRMDL	480
481	PGSPSRQACS	SQPAQMLSVD	TGHADRQASG	RMDVSASVEQ	EALSNAFRSV	PLAEEDFD	540
541	KEWVIIDKET	ELKDFPPGAE	PSTSGTTDEE	PEELRPLPEE	GEERRRLGAE	PTVRPRGRSM	600
601	QALAEEDLQH	LPPQPLPPQL	SQGDGRSETS	QPPTPGSPSH	SPLHSGPRPR	RRESDPTGPQ	660
661	RQVFSVAPPF	EVNGLPRAVP	LSLPYQDFKR	DLSDYRERAR	LLNRVRRVGF	SHMLLTTPQV	720
721	PLAPVQPQAN	GKEEEEEEEEE	DEEEEEDEE	EEEEEEEEEE	EEEEEEEEEE	EAAAAVALGE	780
781	VLGPRSGSSS	EGSERSTDRS	QEGAPSTLLA	DDQKESRGRA	SMADGDLEPE	EGSKTLVLVS	840
841	PGDMKKSPT	AELAPDPDLG	TLAALTPQHE	RPQPTGSQLD	VSEPGTLLSV	LKSEPKPPGP	900
901	GAGLGAGTVT	TGVGGVAVTS	SPFTKVERTF	VHIAEKTHLN	VMSSGGQALR	SEEFSAAGEL	960
961	GLELASDGA	VEEGARAPLE	NGLALSGLNG	AEIEGSALSG	APRETPSEMA	TNSLPNGPAL	1020
1021	ADGPAPVSPL	EPSPEKVATI	SPRRHAMP	RPRSRIPVLL	SEEDTGSEPS	GSLSAKERWS	1080
1081	KRARPPQDLA	RLVMEKRQGR	LLLRLASGAS	SSSSEEQRRA	SETLSGTGSE	EDTPASEPAA	1140
1141	ALPRKSGRAA	ATRSRIPRPI	GLRMPMPVAA	QQPASRSHGA	APALDTAITS	RLQLQTPPGS	1200
1201	ATAADLRPKQ	PPGRGLGPR	AQAGARPPAP	RSPRLPASTS	AARNASASPR	SQSLSRRESP	1260
1261	SPSHQARPGV	PPRGVPPAR	AQPDGTPSPG	GSKKGPRGKL	QAQRATTKGR	AGGAEGRAGA	1320
1321	R						1380

blue: TTBK1 sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_115927.1