

PLK1

polo-like kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: PLK1

Synonyms: STPK13, PLK

Product No.: 0183-0000-1

Lot: 013

Description: Human PLK1, full length, amino acids M₁-S₆₀₃ (as in [NCBI/Protein](#) entry NP_005021.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: PLK1, Lot 013, was confirmed as PLK1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 99,311 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: 0.110 µg/µl

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

Biochemical Parameters:

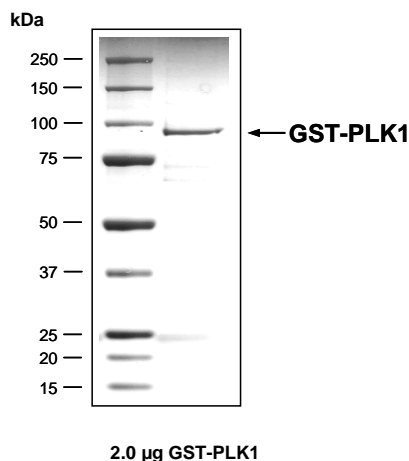
Specific kinase activity (P_i transfer): 45 pmol/µg × min

ATP-K_M: 2.3 µM

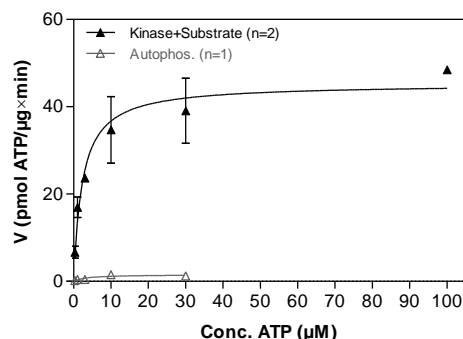
Additional assay technology:

PLK1 Lot 013 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

PLK1 Lot 013:
Coomassie stain



PLK1 Lot 013:
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-CDC25tide, 60 µg/ml
 - PLK1: 1 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

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GST-PLK1 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	KRIEAIPOID	KYLKSSKYIA	WPLQGQWQATF	GGGDHPPKSD	PMG HHHHHH G	RRRASVAAGI	240
241	LVPRGS PGLD	GIYARGIQAS	MGARGRSRNF	MSAAVTAGKL	ARAPADPGKA	GVPGVAAPGA	300
301	PAAAPPAKEI	PEVLVDPRSR	RRYVRGRFLG	KGGFAKCFEI	SDADTKEVFA	GKIVPKSLLL	360
361	KPHQREKMSM	EISIHRS LAH	QHVVG FHGFF	EDNDFV FVVL	ELCRRRS LLE	LHKRRKALTE	420
421	PEARYYLRQI	VLGCQYLHRN	RVIHRDLKLG	NLFLNEDLEV	KIGDFGLATK	VEYDGERKKT	480
481	LCGTPNYIAP	EVLSKKGHSF	EVDVWSIGCI	MYTLVVGKPP	FETSCLKET Y	LRIKKNEYSI	540
541	PKHINPVAAS	LIQKMLQ TDP	TARPTINELL	NDEFFTS GYI	PARLPITCLT	IPPRFSIAPS	600
601	SLDPSNRKPL	TVLNKGL ENP	LPERPREKEE	PVVRETGEV V	DCHLS DMLQ Q	LHSVNASKPS	660
661	ERGLVRQEEA	EDPACIPIFW	VSKWVDYSDK	YGLGYQLCDN	SVGVLFNDS T	RLILYNDGDS	720
721	LQYIERDGTE	SYLTVSSHPN	SLMKKITLLK	YFRNYMSEHL	LKAGANITPR	EGDELARLPY	780
781	LRTWFRTRSA	IILHLSNGSV	QINFFQDHTK	LILCPLMAAV	TYIDEKRDFR	TYRLSLLEEY	840
841	GCCKELASRL	RYARTMVDKL	LSSRSASNRL	KAS			900

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: PLK1 **boxed**: variation from RefSeq

PLK1 wt ¹ Amino Acid Sequence							
1	MSAAVTAGKL	ARAPADPGKA	GVPGVAAPGA	PAAAPPAKEI	PEVLVDPRSR	RRYVRGRFLG	60
61	KGGFAKCFEI	SDADTKEVFA	GKIVPKSLLL	KPHQREKMSM	EISIHRS LAH	QHVVG FHGFF	120
121	EDNDFV FVVL	ELCRRRS LLE	PHKRRKALTE	PEARYYLRQI	VLGCQYLHRN	RVIHRDLKLG	180
181	NLFLNEDLEV	KIGDFGLATK	VEYDGERKKT	LCGTPNYIAP	EVLSKKEHSF	EVDVWSIGCI	240
241	MYTLVVGKPP	FETSCLKET Y	LRIKKNEYSI	PKHINPVAAS	LIQKMLQ TDP	TARPTINELL	300
301	NDEFFTS GYI	PARLPITCLT	IPPRFSIAPS	SLDPSNRKPL	TVLNKGL ENP	LPERPREKEE	360
361	PVVRETGEV V	DCHLS DMLQ Q	LHSVNASKPS	ERGLVRQEEA	EDPACIPIFW	VSKWVDYSDK	420
421	YGLGYQLCDN	SVGVLFNDS T	RLILYNDGDS	LQYIERDGTE	SYLTVSSHPN	SLMKKITLLK	480
481	YFRNYMSEHL	LKAGANITPR	EGDELARLPY	LRTWFRTRSA	IILHLSNGSV	QINFFQDHTK	540
541	LILCPLMAAV	TYIDEKRDFR	TYRLSLLEEY	GCCKELASRL	RYARTMVDKL	LSSRSASNRL	600
601	KAS						660

blue: PLK1 sequence expressed in recombinant protein **Red**: variant in recombinant protein

¹[NCBI/Protein](#) accession number NP_005021.1