

ProQinase™ CDK1/CycA1

cyclin dependent kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK1

Synonyms: CDC2

Product No.: 0134-2122-1

Lot: 001

Description: Human CDK1, full length, amino acids M₁-M₂₉₇ (as in [NCBI/Protein](#) entry NP_001777.1), N-terminal GST fusion protein with a Thrombin cleavage site and human CycA1, full length, amino acids M₁-Q₄₂₁ (as in [NCBI/Protein](#) entry NP_001400852.1), N-terminal GST fusion protein with a 3C cleavage site, co-expressed in Sf9 insect cells

Product identity: CDK1/CycA1 Lot 001, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW _{GST-CDK1} :	63882	Da
Theoretical MW _{GST-CycA1} :	75583	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

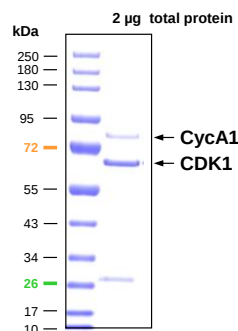
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.169 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

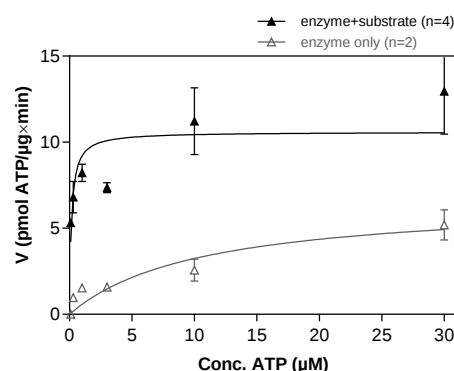
Biochemical Parameters:

Specific kinase activity (P_i transfer): 11 pmol/µg*min
ATP-K_M: 0.15 µM

CDK1/CycA1 Lot 001:
Coomassie stain



CDK1/CycA1 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: RBER-CBKtide 80 µg/ml
 - Kinase: 1 µg/ml

Assay technology:
Radiometric filter binding assay
MSFC membrane (96 well plate, Millipore)

Sequence information

GST-CDK1 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSIEEFTM	EDYTKIEKIG	EGTYGVVYKG	RHKTGQVVA	MKKIRLESGE	300
301	EGVPSTAIRES	ISLLKELRHP	NIVSLQDVLM	QDSRLYLIFE	FLSMDLKKYL	DSIPPGQYMD	360
361	SSLVKSILYQ	ILQGVFCHS	RRVLHRDLKP	QNLLIDDKGT	IKLADFGFLAR	AFGIPIRVYT	420
421	HEVVTLLWYRS	PEVLLGSARY	STPVDIWSIG	TIFAELATKK	PLFHGDSEID	QLFRIFRALG	480
481	TPNNEVWPEV	ESLQDYKNTF	PKWKPGSLAS	HVKNLDENGL	DLLSKMLIYD	PAKRISGKMA	540
541	LNHPYFNDLD	NQIKKM					600

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: CDK1

CDK1 wt¹ Amino Acid Sequence

1	MEDYTKIEKI	GEGTYGVVYK	GRHKTGQVV	AMKKIRLESE	EEGVPSTAIR	EISLLKELRH	60
61	PNIVSLQDVL	MQDSRLYLIF	EFLSMDLKKY	LDSIPPGQYM	DSSLVKSILY	QILQGVFCH	120
121	SRRLVHRDLK	PQNLLIDDKG	TIKLADFLA	RAFGIPIRVY	THEVVTLLWYR	SPEVLLGSAR	180
181	YSTPVDIWSI	GTIFAELATK	KPLFHGDSEI	DQLFRIFRAL	GTPNNEVWPE	VESLQDYKNT	240
241	FPKWKPGSLA	SHVKNLDENG	LDLLSKMLIY	DPAKRISGKM	ALNHPYFNDL	DNQIKKM	300

blue: CDK1 sequence expressed in recombinant protein Red: variant in recombinant protein

¹NCBI/Protein accession number NP_001777.1

GST-CycA1 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RDSLEVLFGQ	240
241	PMHCSNPKSG	VVLATVARGP	DACQILTRAP	LGQDPPQRTV	LGLLTANGQY	RRTCGQGITR	300
301	IRCYSGSENA	FPPAGKKALP	DCGVQEPKQ	GFDIYMDELE	QGDRDSCSVR	EGMAFEDVYE	360
361	VDTGTLKSDL	HFLLDFTVS	PMLVDSSLLS	QSEDISSLT	DVINVTEYAE	EIIQYLREAE	420
421	IRHRPKAHYM	KKQPDITEGM	RTILVDWLVE	VGEYKLRAE	TLYLAVNFLD	RFLSCMSVLR	480
481	GKLQLVGTAA	MLLASKYEEI	YPPEVDEFVY	ITDDTYTKRQ	LLKMEHLLLK	VLAFLDTPVT	540
541	TNQFLQLYLR	RQGVCVRTEN	LAKYVAELSL	LEADPFLKYL	PSLIAAAAFCL	LANYTVNKHF	600
601	WPETLAAFTG	YSLSEIVPCL	SELHKAYLDI	PHRPQQAIRE	KYKASKYLCV	SLMEPPAVLL	660
661	LQ						720

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: CycA1

CycA1 wt² Amino Acid Sequence

1	MHCSNPKSGV	VLATVARGPD	ACQILTRAPL	QGDPPQRTVL	GLLTANGQYR	RTCGQGITRI	60
61	RCYSGSENAF	PPAGKKALPD	CGVQEPKQ	GFDIYMDELEQ	GDRDSCSVRE	GMAFEDVYEV	120
121	DTGTLKSDNL	KFLDFNTVSP	MLVDSSLLSQ	SEDISSLTGTD	VINVTEYAE	IYQYLREAEI	180
181	RHRPKAHYMK	KQPDITEGMR	TILVDWLVEV	GEEYKLRAET	LYLAVNFLDR	FLSCMSVLRG	240
241	KLQLVGTAA	LLASKYEEIY	PPEVDEFVYI	TDDTYTKRQL	LKMEHLLLKV	LAFDLTPVTT	300
301	NQFLQLYLR	QGVCVRTENL	AKYVAELSLL	EADPFLKYL	SLIAAAAFCL	ANYTVNKHFW	360
361	PETLAAFTGY	SLSEIVPCLS	ELHKAYLDIP	HRPQQAIREK	YKASKYLCVS	LMEPPAVLLL	420
421	Q						480

blue: CycA1 sequence expressed in recombinant protein

²NCBI/Protein accession number NP_001400852.1

HGNC identifier CycA1: CCNA1