

ProQinase™ CDK1/CycA2

Cyclin dependent kinase 1 / CyclinA2

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK1

Synonyms: CDC2

Product No.: 0134-0054-1

Lot: 005

Description: Human CDK1, full length, amino acids M₁-M₂₉₇ (as in [NCBI/Protein](#) entry NP_001777.1) and human CycA2, full length, amino acids M₁-L₄₃₂ (as in [NCBI/Protein](#) entry NP_001228.1), both N-terminal GST fusion proteins with a Thrombin cleavage site, co-expressed in Sf9 insect cells

Product identity: CDK1/CycA2 Lot 005, was confirmed as CDK1/CycA2 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{GST-CDK1}: 63,882 Da

Theoretical MW_{GST-CycA2}: 74,928 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: 0.126 µg/µl

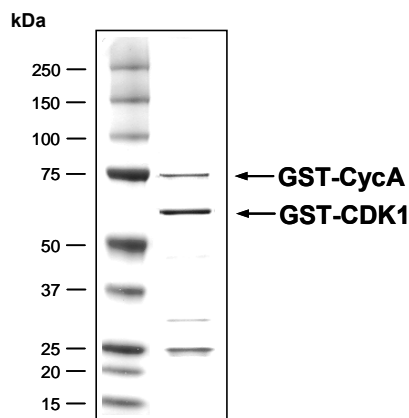
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

Specific kinase activity (P_i transfer): 8 pmol/µg × min

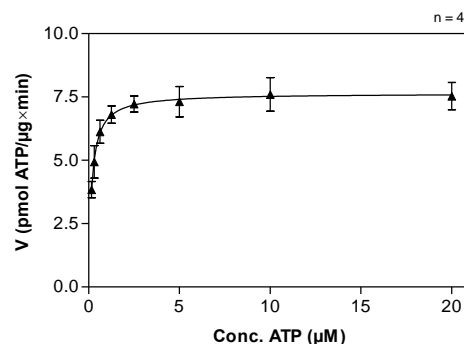
ATP-K_M: 0.16 µM

**CDK1/CycA2 Lot 005:
Coomassie stain**



2.0 µg GST-CDK1/CycA

**CDK1/CycA2 Lot 005:
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: RB-CTF, 20 µg/ml
 - CDK1/CycA2: 4.0 µg/ml
- Filter binding assay
 - MSFC membrane (Millipore)

ProQinase™ CDK1/CycA2

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GST-CDK1 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	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG HHHHHG	RRRASVAAGI	240
241	LVPRGS PGLD	GICSIEEFTM	EDYTKIEKIG	EGTYGVVYKG	RHKTGQVVA	MKKIRLES GE	300
301	EGVPSTAI RE	ISLLKELRHP	NIVSLQDVL M	QDSRLYLIFE	FLSMDLKKYL	DSIPPGQYMD	360
361	SSLVKS YLYQ	ILQGI VFCHS	RRVLHRDLK P	QNLLIDDKGT	IKLADFGLAR	AFGIPIRVYT	420
421	HEVVTL WYRS	PEVLLGSARY	STPVDIWSIG	TIFAELATKK	PLFHGDSEID	QLFRIFRALG	480
481	TPNNEV WPEV	ESLQDYKNTF	PKWKPGSLAS	HVKNLDENGL	DLLSKMLIYD	PAKRISGKMA	540
541	LNHPYF NLLD	NQIKKM					600

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: CDK1 **boxed**: variation from RefSeq

CDK1 wt ¹ Amino Acid Sequence							
1	MEDYTKIEKI	GEGTYGVVYK	GRHKTGQV	AMKKIRLES E	EEGVPSTAIR	EISLLKELRH	60
61	PNIVSLQDVL	MQDSRLYLIF	EFLSMDLKKY	LDSIPPGQYM	DSSLVKS YLY	QILQGI VFCH	120
121	SRRVLHRDLK	PQNLLIDDKG	TIKLADFGLA	RAFGIPIRVY	THEVVTLWYR	SPEVLLGSAR	180
181	YSTPVDIWSI	GTIFAELATK	KPLFHGDSEI	DQLFRIFRAL	GTPNNEVWE	VESLQDYKNT	240
241	FPWKPGSLA	SHVKNLDENG	LDLLSKMLIY	DPAKRISGKM	ALNHPYFN DL	DNQIKM	300

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

¹[NCBI/Protein](#) accession number NP_001777.1

GST-CycA2 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	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	LVPRGS VMLG	NSAPGPATRE	240
241	AGSALLALQ	TALQEDQENI	NPEKAAPVQ	PRTRAALAVL	KSGNPRGLAQ	QQRPKTRRVA	300
301	PLKDL PVND	HVTVP PKAN	SKQPAFTI HV	DEAEKEA QKK	PAESQ IERE	DALAFNSAIS	360
361	LPGPRK PLVP	LDYPM DGSFE	SPHTM DMSIV	LEDEK PVSVN	EVPDY HEDIH	TYLREME VKC	420
421	KPKVGY MKKQ	PDITNS MRAI	LVDWL VEVGE	EYKLQ NETLH	LAVNY IDRFL	SSMSV LRGKL	480
481	QLVGTA AML	ASKFEEI YPP	EVAEFV YITD	DTYTK QVLR	MEHLV LKVL	FDLAA PTVNO	540
541	FLTQY FLHQ	PANCK VESLA	MFLGEL SLID	ADPYL KYLPS	VIAGAA FHLA	LYTVT GQSWP	600
601	ESLIRK TGYT	LES LKPC	LMD LHQ	TYL KAPQ	HAQ QSIREKY	KNSKY HGVSL	660
601							660

1-218: GST **Pink**: Thrombin cleavage site **blue**: CycA2

CycA2 wt ² Amino Acid Sequence							
1	MLGNSAP GPA	TREAG SALLA	LQQTAL QEDQ	ENINPE KAAP	VQQP RTRAAL	AVLKS GNPRG	60
61	LAQQOR PKTR	RVAPL KDLPV	NDEHV TVPPW	KANSQ PAFT	IHVDE AEKEA	QKKPA ESQKI	120
121	EREDAL FNS	AISL PGPRKP	LVPLD YPMDG	SFESP HMDM	SIVLE DEKPV	SVNEV PDYHE	180
181	DIHTY LREME	VKCKP KVGYM	KKQPD ITNSM	RAILV DWLVE	VGEEY KLQNE	TLHLA VNYID	240
241	RFLSS MSVLR	GKLQ LVGTAA	MLL ASKFEEI	YPPEV AEFVY	ITDDT YTRKQ	VLRME HLVLK	300
301	VLTFD LAAPT	SNQF LTQYFL	HQQP ANCKVE	SLAMF LGELS	LIDAD PYLKY	LPSVI AGAAF	360
361	HLALY TVTGTQ	WSPES LIRKT	GYTLES LKPC	LMDLH QTYLK	APQHA QQSIR	EKYKN SKYHG	420
421	VSL LNPPETL	NL					480

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

²[NCBI/Protein](#) accession number NP_001228.1

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