

CDK1/CycB1

cyclin Dependent Kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK1

Synonyms: CDC2, CDC28A

Product No.: 0134-0135-1

Lot: 032

Description: Human CDK1, amino acids M₁-M₂₉₇ (as in [NCBI/Protein](#) entry NP_001777.1) and human CycB1, amino acids M1-V433 (as in [NCBI/Protein](#) entry NP_114172.1), both N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, coexpressed in Sf9 insect cells

Product identity: CDK1/CycB1 Lot 032 was confirmed as CDK1/CycB1 by mass spectroscopy LC-ESI-MS/MS

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

Theoretical MW_{GST-CycB1}: 78,925 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: 0.255 µg/µl

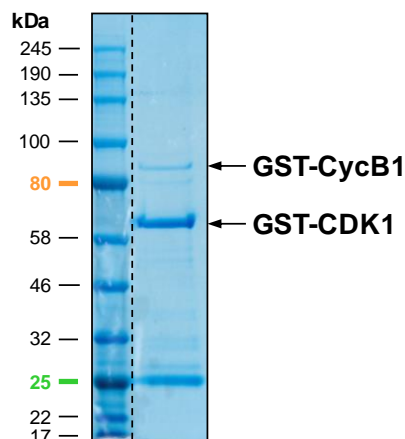
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

Specific kinase activity (P_i transfer): 7.6 pmol/µg × min

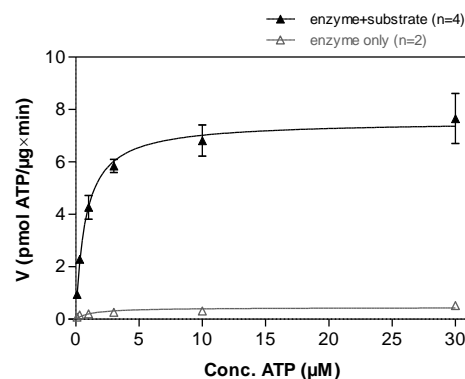
ATP-K_M: 0.8 µM

CDK1-CycB1 Lot 032: Coomassie stain



4 µg CDK1-CycB1

CDK1-CycB1 Lot 032: 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 2.5 µg/ml
 - Kinase: 1 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

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CDK1/CycB1

Product No.: 0134-0135-1

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	PMGHHHHHGG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSIEEFTM	EDYTKIEKIG	EGTYGVVYKG	RHKTGQVVA	MKKIRLESGE	300
301	EGVPSTAIRE	ISLLKELRHP	NIVSLQDVLM	QDSRLYLIFE	FLSMDLKKYL	DSIPPGQYMD	360
361	SSLVKS YLYQ	ILQGIVFCHS	RRVLHRDLKP	QNLLIDDKGT	IKLADFGLAR	AFGIPIRVYT	420
421	HEVVT LWYRS	PEVLLGSARY	STPVDIWSIG	TIFAELATKK	PLFHGDSEID	QLFRIFRALG	480
481	TPNNEVWPEV	ESLQDYKNTF	PKWKPGSLAS	HVKNLDEGL	DLLSKMLIYD	PAKRISGKMA	540
541	LNHPYFNLLD	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	EEGVPSTAIR	EISLLKELRH	60
61	PNIVSLQDVL	MQDSRLYLIF	EFLSMDLKKY	LDSIPPGQYM	DSSLVKS YLY	QILQGIVFCH	120
121	SRRVLHRDLK	PQNLLIDDKG	TIKLADFGLA	RAFGIPIRVY	THEVVT LWYR	SPEVLLGSAR	180
181	YSTPVDIWSI	GTIFAELATK	KPLFHGDSEI	DQLFRIFRAL	GTPNNEVWPE	VESLQDYKNT	240
241	FPWKPGSLA	SHVKNLDEGL	LDLLSKMLIY	DPAKRISGKM	ALNHPYFNLD	DNQIKKM	300

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

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

GST-CycB1 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	PMGHHHHHGG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSIEEFRP	PWELAMALRV	TRNSKINAEN	KAKINMAGAK	RVPTAPAATS	300
301	KPGLRPRAL	GDIGNKVSEQ	LQAKMPMKKE	AKPSATGKVI	DKKLPKPLEK	VPMLVPVPS	360
361	EPVPEPEPEP	EPEPVKKEKL	SPEPILVDTA	SPSPMETSGC	APAEEDLCQA	FSDVILAVND	420
421	VDAEDGADPN	LCSEYVKDIY	AYLRQLEEEQ	AVRPKYLLGR	EVTGNMRAIL	IDWL VQVQMK	480
481	FRLLOETMYM	TVSIIIDRFM	NNCVPKMLQ	LVGVTAMFIA	SKYEEMYPPE	IGDFAFVTDN	540
541	TYTKHQIRQM	EMKILRALNF	GLGRPLPLHF	LRRASKIGEY	DVEQHTLAKY	LMELTMSDYD	600
601	MVHFPPSQIA	AGAFCLALKI	LDNGEWTPTL	QHLYSYTEES	LLPVMQHLAK	NVVMVNOGLT	660
661	KHMTVKNKYA	TSKHAKISTL	PQLNSALVQD	LAKAVAKV			720

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: CycB1 boxed: variation from RefSeq

CycB1 wt ² Amino Acid Sequence							
1	MALRVTRNSK	INAENKAKIN	MAGAKRVPTA	PAATSKPGLR	PRTALGDIGN	KVSEQLQAKM	60
61	PMKKEAKPSA	TGKVIDKKLP	KPLEKVPMLV	PVPVSEPVPE	PEPEPEPEPV	KEEKLSP EPI	120
121	LVDTASPSPM	ETSGCAPAE	DLCQAFSDVI	LAVNDVDAED	GADPNLCSEY	VKDIYAYLRQ	180
181	LEEEQAVRPK	YLLGREVTGN	MRAILIDWL	VQVQMKFRLQ	ETMYMTVSI	DRFMQNNCVP	240
241	KKMLQLVGV	AMFIASKYEE	MYPPEIGDFA	FVTDNTYTKH	QIRQMEMKIL	RALNFG LGRP	300
301	LPLHFLRRAS	KIGEVDVEQH	TLAKYLMELT	MLDYDMVHFP	PSQIAAGAF	LALKILDNGE	360
361	WTPTLQHYLS	YTEESLLPVM	QHLAKNVVMV	NQGLTKHMTV	KNKYATSKHA	KISTLPQLNS	420
421	ALVQDLAKAV	AKV					480

blue: CycB1 sequence expressed in recombinant protein Red: variant in recombinant protein

²[NCBI/Protein](#) accession number NP_114172.1

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