

ProQinase™ CDK1/CycO

cyclin dependent kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK1

Synonyms: CDC2, p34

Product No.: 0134-2135-1

Lot: 001

Description: Human CDK1, full length, amino acids M₁-M₂₉₇ (as in [NCBI/Protein](#) entry NP_000177.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, and human CycO, full length, amino acids M₁-K₃₅₀ (as in [NCBI/Protein](#) entry NP_066970.3), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site expressed in Sf9 insect cells

Product identity: CDK1/CycO LOT001, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW_{GST-CDK1}: 63882 Da

Theoretical MW_{GST-CycO}: 66185 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!

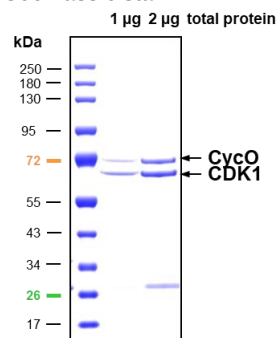
Protein concentration: 0.485 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

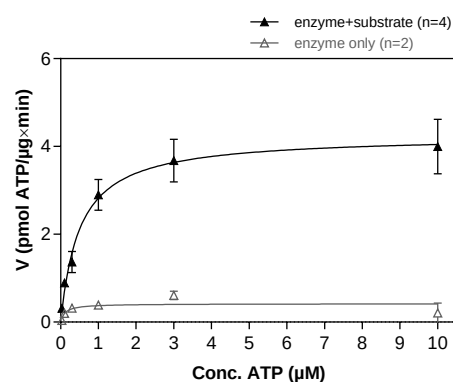
Specific kinase activity (P_i transfer): 4.2 pmol/µg*min

ATP-K_M: 0.51 µM

CDK1/CycO Lot 001:
Coomassie stain



CDK1/CycO 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: SUPT5H 754-837 20 µg/ml
 - Kinase: 2 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	EFNPLPYIID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSIEEFTM	EDYTKIEKIG	EGTYGVVYKG	RHKTGQVVA	MKKIRLESGE	300
301	EGVPSTAIRES	ISLLKELRHP	NIVSLQDVLM	QDSRLYLIFE	FLSMDLKYYL	DSIPPGQYMD	360
361	SSLVKSILYQ	ILQGIVFCHS	RRVLHRDLKP	QNLLIDDKGT	IKLADFGRLAR	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	QILQGIVFCH	120
121	SRRVLHRDLK	PQNLLIDDKG	TIKLADFGLA	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

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

GST-CycO Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFNPLPYIID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RDSLEVLFGG	240
241	PMVTPCPTSP	SSPAARAGR	DNDQNLRAVP	KKSRRPRLRR	KQPLHPLNPC	PLPGDSGICD	300
301	LFESPSSGSD	GAESPSAARG	GSPLPGPAQP	VAQLDLQTFR	DYQSCYAFR	KAQESHFHPR	360
361	EALARQPQVT	AESRCKLLSW	LIPVHRQFGL	SFESLCLTVN	TLDRFLTTPV	VAADCFQLLG	420
421	VTSLLIACKQ	VEVHPPRVKQ	LLALCCGAFS	RQQLCNLECI	VLHKLHFTLG	APTISFFLEH	480
481	FTHARVEAGQ	AEASEALEAQ	ALARGVAELS	LADYAFTSYS	PSLLAICCLA	LADRMLRVSR	540
541	PVDLRLGDHP	EAALEDCEMGK	LQLLVAINST	SLTHMLPVQI	CEKCSLPPSS	K	600

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

CycO wt² Amino Acid Sequence

1	MVTPCPTSPS	SPAARAGR	NDQNLRAVPK	KSRRPRLRRK	QPLHPLNPCP	LPGDSGICDL	60
61	FESPSSGSDG	AESPSAARGG	SPLPGPAQPV	AQLDLQTFRD	YGQSCYAFRK	AQESHFHPRE	120
121	ALARQPQVTA	ESRCKLLSWL	IPVHRQFGLS	FESLCLTVNT	LDRFLTTPV	AADCFQLLG	180
181	TSLLIACKQV	EVHPPRVKQL	LALCCGAFSR	QQLCNLECI	LHKLHFTLGA	PTISFFLEHF	240
241	THARVEAGQA	EASEALEAQ	LARGVAELSL	ADYAFTSYS	SLLAICCLA	ADRMLRVSR	300
301	VDLRLGDHPE	AALEDCEMGK	QLLVAINSTS	LTHMLPVQIC	EKCSLPPSSK		360

blue: CycO sequence expressed in recombinant protein

²[NCBI/Protein](#) accession number NP_066970.3

[HGNC](#) identifier CycO: CCNO