

ProQinase™ CDK3/CycO

cyclin dependent kinase 3

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK3

Synonyms: CDKN3

Product No.: 0212-2135-1

Lot: 001

Description: Human CDK3, full length, amino acids M₁-H₃₀₅ (as in [NCBI/Protein](#) entry NP_001249.1) N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, and human CycO, 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: CDK3/CycO Lot001, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW_{GST-CDK3}: 68193 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!

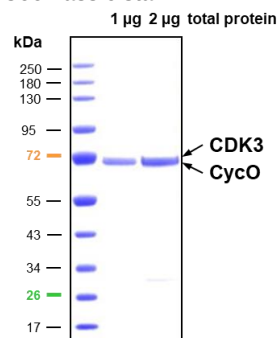
Protein concentration: 0.476 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

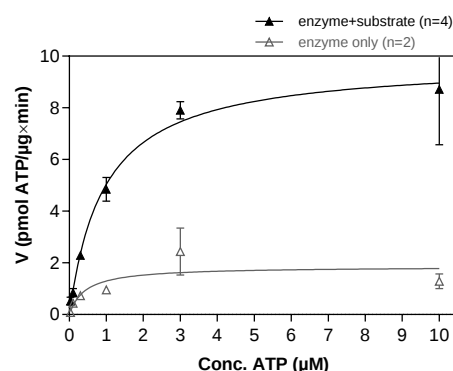
Specific kinase activity (P_i transfer): 9.8 pmol/µg*min

ATP-K_M: 0.95 µM

CDK3/CycO Lot 001: Coomassie stain



CDK3/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: RBER-CHKtide 40 µg/ml
 - Kinase: 2 µg/ml

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

Sequence information

GST-CDK3 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFPNLPYYID	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	GIYARGIQAS	MGARGRQCDG	YLQNSPLAMD	MFQKVEKIGE	GTYGVVYKAK	300
301	NRETQQLVAL	KKIRLDLEME	GVPSTAIRES	SLLKELKHPN	IVRLLDVVHN	ERKLYLVFEF	360
361	LSQDLKKYMD	STPGSELPLH	LIKSYLFQLL	QGVSFCHSHR	VIHRDLKPQN	LLINELGAIK	420
421	LADFGARAF	GVPLRTYTHE	VVTLWYRAPE	ILLGSKFYTT	AVDIWSIGCI	FAEMVTRKAL	480
481	FPGDSEIDQL	FRIFRMLGTP	SEDTPWPGVTQ	LPDYKGSFPK	WTRKGLEEIV	PNLEPEGRDL	540
541	LMQLLQYDPS	QRITAKTALA	HPYFSSPEPS	PAARQYVLQR	FRHGKGEFQH	TGARY	600

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: CDK3

CDK3 wt¹ Amino Acid Sequence

1	MDMFQKVEKI	GEGTYGVVYK	AKNRETQQLV	ALKKIRLDLE	MEGVPSTAIR	EISLLKELKH	60
61	PNIVRLLDV	HNERKLYLVF	EFLSQDLKKY	MDSTPGSELP	LHLIKSYLFQ	LLQGVSFCHS	120
121	HRVIHRDLKP	QNLLINELGA	IKLADFGAR	AFGVPLRITY	HEVVTWYRA	PEILLGSKFY	180
181	TTAVDIWSIG	CIFAEMVTRK	ALFPGDSEID	QLFRIFRMLG	TPSEDTPWGV	TQLPDYKGSF	240
241	PKWTRKGL	IVPNLEPEGR	DLLMQLLQYD	PSQRITAKTA	LAHPYFSSPE	PSPAARQYVL	300
301	QRFRRH						360

blue: CDK3 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_001249.1

GST-CycO Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RDSLEVLFGG	240
241	PMVTPCPTSP	SSPAARAGR	DNDQNLRAV	KKSRRLRR	KQPLHPLNPC	PLPGDSGICD	300
301	LFESPSSGSD	GAESPSAARG	GSPLPGPAQP	VAQLDLQTFR	DYQSCYAFR	KAQESHFHPR	360
361	EALARQPQVT	AESRCKLLSW	LIPVHRQFGL	SFESLCLTVN	TLDRFLTTP	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	NDQNLRAV	KSRRLRR	QPLHPLNPC	LPDGSICDL	60
61	FESPSSGSDG	AESPSAARGG	SPLPGPAQP	AQLDLQTFR	YGQSCYAFR	AQESHFHPR	120
121	ALARQPQVTA	ESRCKLLSW	IPVHRQFGLS	FESLCLTVNT	LDRFLTTPV	AADCFQLLG	180
181	TSLLIACKQV	EVHPPRVKQ	LALCCGAFS	QQLCNLECI	LHKLHFTLGA	PTISFFLEH	240
241	THARVEAGQA	EASEALEAQ	LARGVAELS	ADYAFTSYS	SLLAICCLAL	ADRMLRVSR	300
301	VDLRLGDHPE	AALEDCEMGK	QLLVAINST	LTHMLPVQIC	EKCSLPPSSK		360

blue: CycO sequence expressed in recombinant protein

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

[HGNC](#) identifier CycO: CCNO