

ProQinase™ CDK2/CycO cyclin dependent kinase 2

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK2

Synonyms: p33

Product No.: 0050-2135-1

Lot: 001

Description: Human CDK2 full length, amino acids M₁-L₂₉₈ (as in [NCBI/Protein](#) entry NP_001789.2), 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: CDK2/CycO Lot 001, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW _{GST-CDK2} :	60222	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

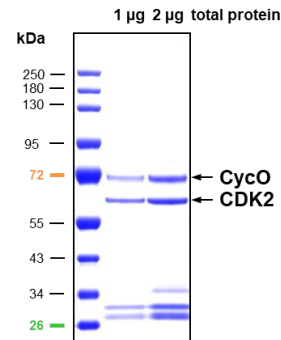
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.300 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

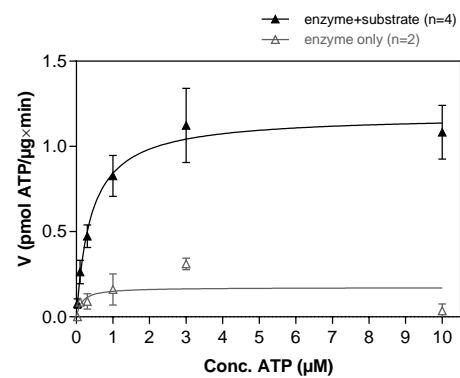
Biochemical Parameters:

Specific kinase activity (P_i transfer): 1.2 pmol/µg*min
ATP-K_M: 0.4 µM

**CDK2/CycO Lot 001:
Coomassie stain**



**CDK2/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 754-827 20 µg/ml
Kinase: 0.5 µg/ml

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

Recombinant Proteins

Sequence information

GST-CDK2 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	LVPRGSMENF	QKVEKIGEGT	240
241	YGVVYKARNK	LTGEVVALKK	IRLDTETEGV	PSTAIRESISL	LKELNHPNIV	KLLDVIHTEN	300
301	KLYLVFEFLH	QDLKKFMDAS	ALTGIPLPLI	KSYLFQLLQG	LAFCHSHRVL	HRDLKPQNLL	360
361	INTEGAIKLA	DFGLARAFGV	PVRTYTHEVV	TLWYRAPEIL	LGCKYYSTAV	DIWSLGCIFA	420
421	EMVTRRALFP	GDSEIDQLFR	IFRTLGTPE	VVWPGVTSMP	DYKPSFPKWA	RQDFSKVVPP	480
481	LDEDGRSLLS	QMLHYDPNKR	ISAKAALAH	FFQDVTKPVP	HLRL		540

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: CDK2

CDK2 wt ¹ Amino Acid Sequence							
1	MENFQKVEKI	GEGTYGVVYK	ARNKLTGEVV	ALKKIRXDTE	TEGVPSTAIR	EISLLKELNH	60
61	PNIVKLLDVI	HTENKLYLVF	EFLHQDLKKE	MDASALTGIP	LPLIKSYLFQ	LLQGLAFCHS	120
121	HRVLHRDLKP	QNLLINTEGA	IKLADFGLAR	AFGVPVRTYT	HEVVTLWYRA	PEILLGCKYY	180
181	STAVDIWSLG	CIFAEMVTRR	ALFPGDSEID	QLFRIFRILG	TPDEVVWPGV	TSMPDYKPSF	240
241	PKWARQDFSK	VVPLDEDGR	SLLSQMLHYD	PNKRISAKAA	LAHPFFQDVT	KVPVHLRL	300

blue: CDK2 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_001789.2

GST-CycO Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHGG	RDSLEVLVFG	240
241	PMVTPCPTSP	SSPAARAGR	DNDQNLRAV	KKSRPRLRR	KQPLHPLNCP	PLPGDSGICD	300
301	LFESPSSGSD	GAESPSAARG	GSPLPGPAQP	VAQLDLQTFR	DYQSCYAFR	KAQESHFHPR	360
361	EALARQPQVT	AESRCKLLSW	LIPVHRQFGL	SFESLCLTVN	TLDRFLTTTP	VAADCFQLLG	420
421	VTSLLIACKQ	VEVHPPRVKQ	LLALCCGAFS	RQQLCNLECI	VLHKLHFTLG	APTISFFLEH	480
481	FTHARVEAGQ	AEASEALEAQ	ALARGVAELS	LADYAFTSYS	PSSLLAICCLA	LADRMLRVS	540
541	PVDLRLGDHP	EAALEDCEMGR	LQLLVAINST	SLTHMLPVQI	CEKCSLPPSS	K	600

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

CycO wt ² Amino Acid Sequence							
1	MVTPCPTSPS	SPAARAGR	DNDQNLRAV	KSRPRLRR	QPLHPLNCP	LPGDSGICDL	60
61	FESPSSGSDG	AESPSAARGG	SPLPGPAQPV	AQLDLQTFRD	YGQSCYAFRK	AQESHFHPRE	120
121	ALARQPQVTA	ESRCKLLSWL	IPVHRQFGLS	FESLCLTVNT	LDRFLTTTPV	AADCFQLLGV	180
181	TSLLIACKQV	EVHPPRVKQL	LALCCGAFSR	QQLCNLECI	LHKLHFTLGA	PTISFFLEHF	240
241	THARVEAGQA	EASEALEAQA	LARGVAELSL	ADYAFTSYS	SLLAICCLAL	ADRMLRVS	300
301	VDLRLGDHPE	EAALEDCEMGL	QLLVAINSTS	LTHMLPVQIC	EKCSLPPSSK		360

blue: CycO sequence expressed in recombinant protein

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

[HGNC](#) identifier CycO: CCNO