

## CDK2/CycE1

cyclin dependent kinase 2

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK2

Synonyms: p33

Product No.: 0050-0055-1

Lot: 010

**Description:** Human CDK2, full length, amino acids M<sub>1</sub>-L<sub>298</sub> (as in [NCBI/Protein](#) entry NP\_001789.2) and human CycE1, amino acids M<sub>1</sub>-A<sub>395</sub> (as in [NCBI/Protein](#) entry NP\_476530.1), both N-terminally fused to GST-Thrombin cleavage site, co-expressed in Sf9 insect cells

**Product identity:** CDK2/CycE1 Lot 010, was confirmed as CDK2/CycE1 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW<sub>CDK2</sub>:** 60,222 Da

**Theoretical MW<sub>CycE1</sub>:** 72,041 Da

**Expression host:** Sf9 insect cells

**Purification:** GST-Affinity Chromatography

**Activation:** by coexpression with CycE1

**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:** 0.312 µg/µl

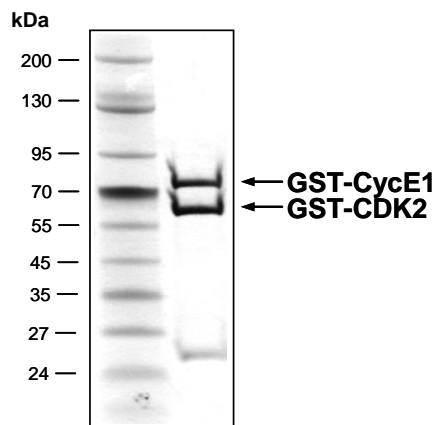
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

Specific kinase activity (P<sub>i</sub> transfer): 88 pmol/µg × min

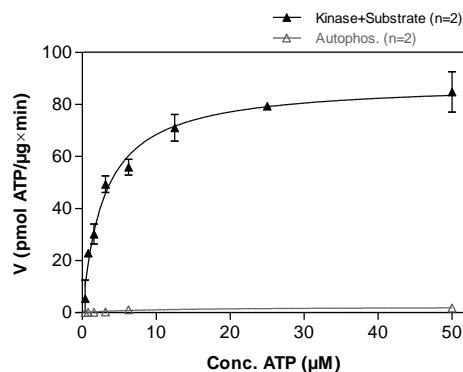
ATP-K<sub>M</sub>: 2.9 µM

CDK2/CycE1 Lot 010:  
Coomassie stain



4 µg GST-CDK2/CycE1

CDK2/CycE1 Lot 010:  
Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



**Determination of K<sub>M</sub> value & Specific activity:**

- Assay conditions:
  - 60 mM HEPES-NaOH, pH 7.5
  - 3 mM MgCl<sub>2</sub>
  - 3 mM MnCl<sub>2</sub>
  - 3 µM Na-orthovanadate
  - 1.2 mM DTT
  - 50 µg / ml PEG<sub>20,000</sub>
  - ATP (variable)
  - Substrate: RB-CTF 100 µg/ml
  - CDK2/CycE1: 1.0 µg/ml
- Filter binding assay
  - MSFC membrane (Millipore)

**Additional assay technology:**

CDK2/CycE1 Lot010 was also successfully tested by ProQinase for the use with the ADP-Glo™ Kinase assay from Promega. ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

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## CDK2/CycE1

Product No.: 0050-0055-1

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

1-218: GST **Pink**: Thrombin cleavage site **blue**: CDK2

CDK2 wt <sup>1</sup> Amino Acid Sequence							
1	<b>MENFQKVEKI</b>	<b>GEGTYGVVYK</b>	<b>ARNKLTGEVV</b>	<b>ALKKIRLDTE</b>	<b>TEGVPSTAIR</b>	<b>EISLLKELNH</b>	60
61	<b>PNIVKLLDVI</b>	<b>HTENKLYLVF</b>	<b>EFLHQDLKKE</b>	<b>MDASALTGIP</b>	<b>LPLIKSYLFQ</b>	<b>LLQGLAFCHS</b>	120
121	<b>HRVLHRDLKP</b>	<b>QNLLINTEGA</b>	<b>IKLADFLAR</b>	<b>AFGVPVRYT</b>	<b>HEVVTWYRA</b>	<b>PEILLGCKYY</b>	180
181	<b>STAVDIWSLG</b>	<b>CIFAEMVTRR</b>	<b>ALFPGDSEID</b>	<b>QLFRIFRTL</b>	<b>TPDEVVWPGV</b>	<b>TSMPDYKPSF</b>	240
241	<b>PKWARQDFSK</b>	<b>VVPLDEDGR</b>	<b>SLLSQMLHYD</b>	<b>PNKRISAKAA</b>	<b>LAHPFFQDVT</b>	<b>KVPVHLRL</b>	300

**blue**: CDK2 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_001789.2

GST-CycE1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	<b>LVPRGSPERD</b>	<b>TMKEDGGAEF</b>	240
241	<b>SARSRKRKAN</b>	<b>VTVFLQDPDE</b>	<b>EMAKIDRTAR</b>	<b>DQCGSQPDN</b>	<b>NAVCADPCSL</b>	<b>IPTPKEDDD</b>	300
301	<b>RVYPNSTCKP</b>	<b>RIIAPSRGSP</b>	<b>LPVLSWANRE</b>	<b>EVWKIMLNKE</b>	<b>KTYLRDQHF</b>	<b>EQHPLLQPKM</b>	360
361	<b>RAILLDWLME</b>	<b>VCEVYKLHRE</b>	<b>TFYLAQDFD</b>	<b>RYMATQENVV</b>	<b>KTLQLIGIS</b>	<b>SLFIAAKLEE</b>	420
421	<b>IYPPKLHQFA</b>	<b>YVTDGACSGD</b>	<b>EILTMELMIM</b>	<b>KALKWRLSPL</b>	<b>TIVSWLNVYM</b>	<b>QVAYLNDLHE</b>	480
481	<b>VLLPQYPQOI</b>	<b>FIQIAELLDL</b>	<b>CVLDVDCLEF</b>	<b>PYGILAASAL</b>	<b>YHFSSELMD</b>	<b>KVSGYQWCDI</b>	540
541	<b>ENCVKMVPF</b>	<b>AMVIRETGSS</b>	<b>KLKHFGRVAD</b>	<b>EDAHNIQTHR</b>	<b>DSL DLLDKAR</b>	<b>AKKAMLSEQN</b>	600
601	<b>RASPLPSGLL</b>	<b>TPPQSGKKQS</b>	<b>SGPEMA</b>				660

1-218: GST **Pink**: Thrombin cleavage site **blue**: CycE1

CycE1 wt <sup>2</sup> Amino Acid Sequence							
1	<b>MKEDGGAEFS</b>	<b>ARSRKRKANV</b>	<b>TVVFLQDPDEE</b>	<b>MAKIDRTARD</b>	<b>QCGSQPDN</b>	<b>AVCADPCSLI</b>	60
61	<b>PTPKEDDDR</b>	<b>VYPNSTCKPR</b>	<b>IIAPSRGSP</b>	<b>PVLSWANREE</b>	<b>VWKIMLNKEK</b>	<b>TYLRDQHFL</b>	120
121	<b>QHPLLQPKMR</b>	<b>AILLDWLMEV</b>	<b>CEVYKLHRET</b>	<b>FYLAQDFDR</b>	<b>YMATQENVV</b>	<b>TLLQLIGISS</b>	180
181	<b>LFIAAKLEEI</b>	<b>YPPKLHQFAY</b>	<b>VTDGACSGDE</b>	<b>ILTMELMIMK</b>	<b>ALKWRLSPLT</b>	<b>IVSWLNVYMQ</b>	240
241	<b>VAYLNDLHEV</b>	<b>LLPQYPQOIF</b>	<b>IQIAELLDLC</b>	<b>VLDVDCLEFP</b>	<b>YGILAASALY</b>	<b>HFSSSELMQK</b>	300
301	<b>VSGYQWCDIE</b>	<b>NCVKMVPFA</b>	<b>MVIRETGSSK</b>	<b>LKHFRGVADE</b>	<b>DAHNIQTHRD</b>	<b>SLDLLDKARA</b>	360
361	<b>KKAMLSEQNR</b>	<b>ASPLPSGLLT</b>	<b>PPQSGKKQSS</b>	<b>GPEMA</b>			420

**blue**: CycE1 sequence expressed in recombinant protein

<sup>2</sup>[NCBI/Protein](#) accession number NP\_476530.1  
HGNC identifier: CCNE1

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