Certificate of Analysis

REACTION BIOLOGY

Recombinant Proteins

ProQinase™ CDK11B 357-795/CycK

cyclin dependent kinase 11B

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK11B

Synonyms: CDC2L1, CDK11-p110, CDK11-p58, CDK11-p46

Product No.: 1779-1484-1

Lot: 002

Description: Human CDK11B/CycK complex, CDK11B C-terminal fragment, amino acids M_{357}-F_{795} (as in NCBI/Protein entry NP_001778.2), CycK N-terminal fragment, amino acids M1-S300 (as in NCBI/Protein entry NP_001092872.1) both N-terminal GST-HIS_6 fusion proteins with a 3C cleavage site, co-expressed in Sf9 insect cells

Product identity: CDK11B 357-795/CycK Lot 002, was confirmed as CDK11B/CycK by mass spectroscopy LC-ESI-MS/MS

Theoretical $MW_{CDK11B\ 357-795}$: 78,059 Da
Theoretical MW_{CycK}: 63,031 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

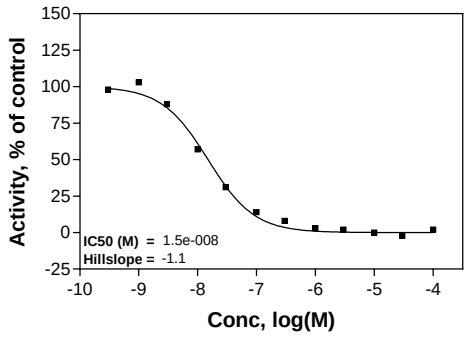
Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 15 mM reduced glutathione, 20 % glycerol

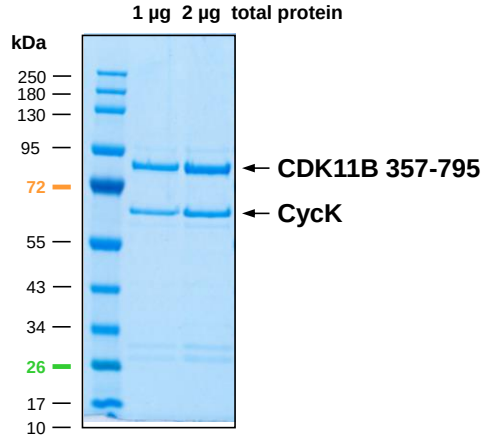
Storage temperature: -80°C
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.524 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

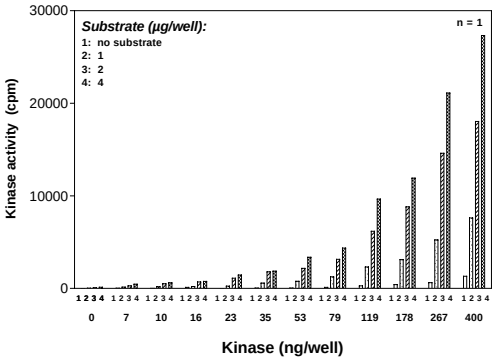
Inhibition of CDK11B 357-795/CycK by AT-7519



CDK11B 357-795/CycK Lot 002: Coomassie stain



CDK11B 357-795/CycK Lot 002: in-vitro activity



- Assay conditions:
  60 mM HEPES-NaOH, pH 7.5
  3 mM $MgCl_2$
  3 mM $MnCl_2$
  3 µM Na-orthovanadate
  1.2 mM DTT
  50 µg/ml $PEG_{20.000}$
  0.1 µM ATP
  Substrate: SUPT5H
  Kinase: variable

^{33}PanQinase assay

CDK11B 357-795/CycK

Product No.: 1779-1484-1

GST-CDK11B 357-795 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 KRIEAIPQID KYLKSSKYIA WPLQGWQATF GGGDHPPKSD PMGHHHHHHG RDSLEVLFQG 240
241 PLAMVMSEDE ERENENHLLV VPESRFDRDS GESEEAEEEV GEGTPQSSAL TEGDYVPDSP 300
301 ALSPIELKQE LPKYLPALQG CRSVEEFQCL NRIEEGTYGV VYRAKDKKTD EIVALKRLKM 360
361 EKEKEGFPIT SLREINTILK AQHPNIVTVR EIVVGSNMDK IYIVMNYVEH DLKSLMETMK 420
421 QPFLPGEVKT LMIQLLRGVK HLHDNWILHR DLKTSNLLLS HAGILKVGDF GLAREYGSPL 480
481 KAYTPVVVTL WYRAPELLLG AKEYSTAVDM WSVGCIFGEL LTQKPLFPGK SEIDQINKVF 540
541 KDLGTPSEKI WPGYSELPAV KKMTFSEHPY NNLRKRFGAL LSDQGFDLMN KFLTYFPGRR 600
601 ISAEDGLKHE YFRETPLPID PSMFPTWPAK SEQQRVKRGT SPRPPEGGLG YSQLGDDDLK 660
661 ETGFHLTTTN QGASAAGPGF SLKF                                        720
```

1-218: GST **Red**: HIS6-tag **Green**: 3C cleavage site **blue**: CDK11B fragment

CDK11B wt[1] Amino Acid Sequence

```
  1 MGDEKDSWKV KTLDEILQEK KRRKEQEEKA EIKRLKNSDD RDSKRDSLEE GELRDHRMEI  60
 61 TIRNSPYRRE DSMEDRGEED DSLAIKPPQQ MSRKEKAHHR KDEKRKEKRR HRSHSAEGGK 120
121 HARVKEKERE HERRKRHREE QDKARREWER QKRREMAREH SRRERDRLEQ LERKRERERK 180
181 MREQQKEQRE QKERERRAEE RRKEREARRE VSAHHRTMRE DYSDKVKASH WSRSPPRPPR 240
241 ERFELGDGRK PGEARPAPAQ KPAQLKEEKM EERDLLSDLQ DISDSERKTS SAESSSAESG 300
301 SGSEEEEEEE EEEEEEGSTS EESEEEEEEE EEEEEETGSN SEEASEQSAE EVSEEEMSED 360
361 EERENENHLL VVPESRFDRD SGESEEAEEE VGEGTPQSSA LTEGDYVPDS PALSPIELKQ 420
421 ELPKYLPALQ GCRSVEEFQC LNRIEEGTYG VVYRAKDKKT DEIVALKRLK MEKEKEGFPI 480
481 TSLREINTIL KAQHPNIVTV REIVVGSNMD KIYIVMNYVE HDLKSLMETM KQPFLPGEVK 540
541 TLMIQLLRGV KHLHDNWILH RDLKTSNLLL SHAGILKVGD FGLAREYGSP LKAYTPVVVT 600
601 LWYRAPELLL GAKEYSTAVD MWSVGCIFGE LLTQKPLFPG KSEIDQINKV FKDLGTPSEK 660
661 IWPGYSELPA VKKMTFSEHP YNNLRKRFGA LLSDQGFDLM NKFLTYFPGR RISAEDGLKH 720
721 EYFRETPLPI DPSMFPTWPA KSEQQRVKRG TSPRPPEGGL GYSQLGDDDL KETGFHLTTT 780
781 NQGASAAGPG FSLKF                                                  840
```

blue: CDK11B sequence expressed in recombinant protein

[1]NCBI/Protein accession number NP_001778.2

Recombinant Proteins

GST-CycK 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  KRIEAIPQID KYLKSSKYIA WPLQGWQATF GGGDHPPKSD PMGHHHHHHG RDSLEVLFQG 240
241  PMKENKENSS PSVTSANLDH TKPCWYWDKK DLAHTPSQLE GLDPATEARY RREGARFIFD 300
301  VGTRLGLHYD TLATGIIYFH RFYMFHSFKQ FPRYVTGACC LFLAGKVEET PKKCKDIIKT 360
361  ARSLLNDVQF GQFGDDPKEE VMVLERILLQ TIKFDLQVEH PYQFLLKYAK QLKGDKNKIQ 420
421  KLVQMAWTFV NDSLCTTLSL QWEPEIIAVA VMYLAGRLCK FEIQEWTSKP MYRRWWEQFV 480
481  QDVPVDVLED ICHQILDLYS QGKQQMPHHT PHQLQQPPSL QPTPQVPQVQ QSQPSQSSEP 540
541  S                                                                 600
```

1-218: GST **Red**: HIS6-tag **Green**: 3C cleavage site **blue**: CycK fragment

CycK wt[2] Amino Acid Sequence

```
1    MKENKENSSP SVTSANLDHT KPCWYWDKKD LAHTPSQLEG LDPATEARYR REGARFIFDV  60
61   GTRLGLHYDT LATGIIYFHR FYMFHSFKQF PRYVTGACCL FLAGKVEETP KKCKDIIKTA 120
121  RSLLNDVQFG QFGDDPKEEV MVLERILLQT IKFDLQVEHP YQFLLKYAKQ LKGDKNKIQK 180
181  LVQMAWTFVN DSLCTTLSLQ WEPEIIAVAV MYLAGRLCKF EIQEWTSKPM YRRWWEQFVQ 240
241  DVPVDVLEDI CHQILDLYSQ GKQQMPHHTP HQLQQPPSLQ PTPQVPQVQQ SQPSQSSEPS 300
301  QPQQKDPQQP AQQQQPAQQP KKPSPQPSSP RQVKRAVVVS PKEENKAAEP PPPKIPKIET 360
361  THPPLPPAHP PPDRKPPLAA ALGEAEPPGP VDATDLPKVQ IPPPAHPAPV HQPPPLPHRP 420
421  PPPPPSSYMT GMSTTSSYMS GEGYQSLQSM MKTEGPSYGA LPPAYGPPAH LPYHPHVYPP 480
481  NPPPPPVPPP PASFPPPAIP PPTPGYPPPP PTYNPNFPPP PPRLPPTHAV PPHPPPGLGL 540
541  PPASYPPPAV PPGGQPPVPP PIPPPGMPPV GGLGRAAWMR                       600
```

blue: CycK sequence expressed in recombinant protein

[2]NCBI/Protein accession number NP_001092872.1
HGNC identifier CycK: CCNK

Recombinant Proteins