

ProQinase™ CDK16/CycY

cyclin dependent kinase 16

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK16

Synonyms: PCTAIRE1, PCTAIRE, PCTGAIRE, PCTK1

Product No.: 1117-1116-1

Lot: 003

Description: Human CDK16, full length, amino acids M₁-F₄₉₆ (as in [NCBI/Protein](#) entry NP_006192.1), N-terminally fused to GST-HIS₆-3C cleavage site and human CycY, full length, amino acids M₁-S₃₄₁ (as in [NCBI/Protein](#) entry NP_659449.3), N-terminally fused to HIS₆-TEV cleavage site, co-expressed in Sf9 insect cells

Product identity: CDK16/CycY Lot 003, was confirmed as CDK16/CycY by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{GST-CDK16}: 84,221 Da

Theoretical MW_{HIS-CycY}: 41697 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: 0.737 µg/µl

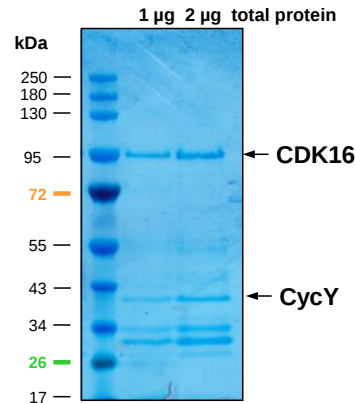
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

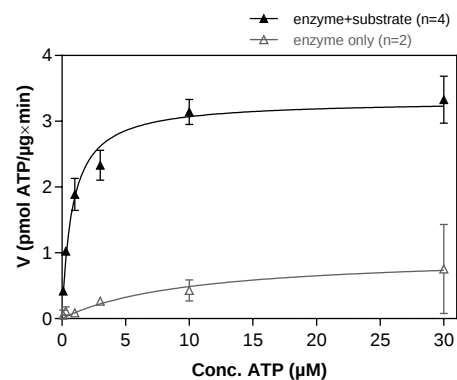
Specific kinase activity (P_i transfer): 3.3 pmol/µg x min

ATP-K_M: 0.8 µM

CDK16/CycY Lot 003:
Coomassie stain



CDK16/CycY Lot 003:
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-GSK3 40 µg/ml
 - Kinase: 4 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

Sequence information

GST-CDK16 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	VVLYMDPMC	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHH	RDSLEVLFG	240
241	PLAMVMDRMK	KIKRQLSMTL	RGGRGIDKTN	GAPEQIGLDE	SGGGGSDPG	EAPTRAAPGE	300
301	LRSARGPLSS	APEIVHEDLK	MGSDGESDQA	SATSSDEVQS	PVRVVRMNH	PRKISTEDIN	360
361	KRLSLPADIR	LPEGYLEKLT	LNSPIFDKPL	SRRLRRVSL	EIGFGKLETY	IKLDKLGEET	420
421	YATVYKGKSK	LTDNLVALKE	IRLEHEEGAP	CTAIREVSL	KDLKHANIVT	LHDIHTEKS	480
481	LTLVFEYLDK	DLKQYLDCCG	NIINMHNVL	FLFQLLRGLA	YCHRQKVLHR	DLKPQNLLIN	540
541	ERGELKLADF	GLARAKSIPT	KTYSNEVVT	WYRPPDILLG	STDYSTQIDM	WGVGCIFYEM	600
600	ATGRPLFPGS	TVEEQLHFIF	RILGTPTEET	WPGILSNEEF	KTYNYPKYRA	EALLSHAPRL	660
661	DSDGADLLTK	LLQFEGRNRI	SAEDAMKHPF	FLSLGERIHK	LPDTTSIFAL	KEIQLQKEAS	720
721	LRSSSMPDSC	RPAFRVVDTE	F				780

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: CDK16

CDK16 wt¹ Amino Acid Sequence

1	MDRMKKIKRQ	LSMTLRGGRG	IDKTNGAPEQ	IGLDESGGGG	GSDPGEAPTR	AAPGELRSAR	60
61	GPLSSAPEIV	HEDLKMGSDG	ESDQASATSS	DEVQSPVVR	MRNHPPRKIS	TEDINKRLSL	120
121	PADIRLPEGY	LEKLTLSPI	FDKPLSRRLR	RVSLSEIGFG	KLETYIKLDK	LGEGTYATVY	180
181	KGKSKLTDNL	VALKEIRLEH	EEGAPCTAIR	EVSLKDLKH	ANIVTLHDII	HTEKSLTLVF	240
241	EYLDKDLKQY	LDDCGNIINM	HNVKLFLFQL	LRGLAYCHRQ	KVLHRDLKPQ	NLLINERDEL	300
301	KLADFLARA	KSIPTKTYSN	EVVTLWYRPP	DILLGSTDYS	TQIDMWGVGC	IFYEMATGRP	360
361	LFPGSTVEEQ	LHFIFRILGT	PTEETWPGIL	SNEEFKTYNY	PKYRAEALLS	HAPRLSDGA	420
421	DLLTKLLQFE	GRNRIAEADA	MKHPFFLSLG	ERIKLPLDIT	SIFALKEIQL	QKEASLRSSS	480
481	MPDSGRPAFR	VVDTEF					540

blue: CDK16 sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_006192.1

HIS-CycY Recombinant Fusion Protein Amino Acid Sequence

1	MSHHHHAMT	ENLYFQGAMV	MGNTTSCCVS	SSPKLRRNAH	SRLESYRPDT	DLSREDTGCN	60
61	LQHISDRENI	DDLNMEFNPS	DHPRASTIFL	SKSQTDVREK	RKSLFINHHP	PGQIARKYSS	120
121	CSTIFLDDST	VSQPNLKYTI	KCVLAIIYH	IKNRDPDGRM	LLDIFDENLH	PLSKSEVPPD	180
181	YDKHNPEQKQ	IYRFVRTLFS	AAQLTAECAI	VTLVYLERLL	TYAEIDICPA	NWKRIVLGAI	240
241	LLASKVWDDQ	AVWNVDYCQI	LKDITVEDMN	ELERQFLELL	QFNINVPSSV	YAKYYFDLRS	300
301	LAEANNLSFP	LEPLSRERAH	KLEAISRLCE	DKYKDLRRSA	RKRSASADNL	TLPRWSPAI	360
361	S						420

Red: HIS6-tag Green: TEV cleavage site blue: CycY

CycY wt² Amino Acid Sequence

1	MGNTTSCCVS	SSPKLRRNAH	SRLESYRPDT	DLSREDTGCN	LQHISDRENI	DDLNMEFNPS	60
61	DHPRASTIFL	SKSQTDVREK	RKSLFINHHP	PGQIARKYSS	CSTIFLDDST	VSQPNLKYTI	120
121	KCVLAIIYH	IKNRDPDGRM	LLDIFDENLH	PLSKSEVPPD	YDKHNPEQKQ	IYRFVRTLFS	180
181	AAQLTAECAI	VTLVYLERLL	TYAEIDICPA	NWKRIVLGAI	LLASKVWDDQ	AVWNVDYCQI	240
241	LKDITVEDMN	ELERQFLELL	QFNINVPSSV	YAKYYFDLRS	LAEANNLSFP	LEPLSRERAH	300
301	KLEAISRLCE	DKYKDLRRSA	RKRSASADNL	TLPRWSPAI	S		360

blue: kinase sequence expressed in recombinant protein Red: variant in recombinant protein

²NCBI/Protein accession number NP_659449.3

HGNC identifier CycY: CCNY