

CDK16 (mutationally activated)

cyclin dependent kinase 16

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK16

Synonyms: PCTAIRE1, PCTGAIRE

Product No.: 0189-0000-1

Lot: 004

Description: Human CDK16, C-terminal fragment, amino acids R₁₀₇-F₄₉₆ (as in NCBI/Protein entry NP_006192.1) with a S₁₅₃A activating point mutation, N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: CDK16 Lot 004, was confirmed as CDK16 by mass spectroscopy LC-ESI-MS/MS (Protagen AG, Germany)

Theoretical MW_{Fusion Protein}: 74,943 Da

Expression: Baculovirus infected Sf9 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

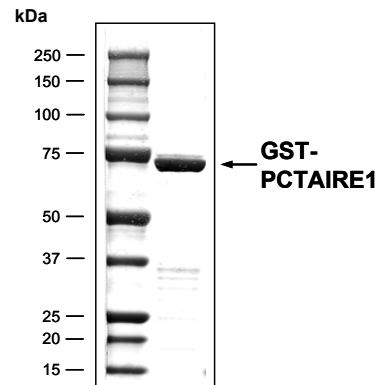
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.731 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

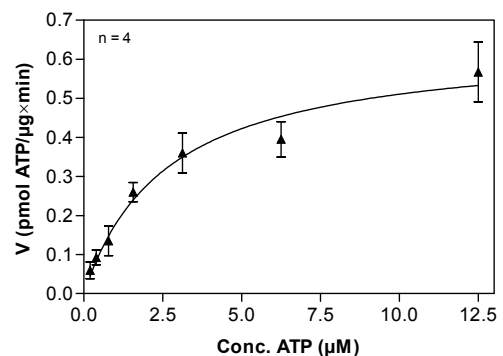
Specific kinase activity (P_i transfer): 0.7 pmol/µg×min
ATP-K_M: 3 µM

CDK16 Lot 004: Coomassie stain



Lot 004, 2.0 µg

CDK16 Lot 004: Determination of V_{max} and K_M value for ATP



Determination of K_M value & Specific activity:

- 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: RB-CTF 50µg/ml
 - Kinase: 1.0 µg / ml
- Filter binding assay
 - MSFC membrane (Millipore)

CDK16

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CDK16 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSR	YSKDFETLKV	120
121	DFLSKLP	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG HHHHHH HG	RRRASVAAGI	240
241	LVPRGS PGLD	GIYARGIQAS	MARKISTEDI	NKRLSLPADI	RLPEGYLEKL	TLNSPIFDKP	300
301	LSRRLRRVAL	SEIGFGKLET	YIKLDKLGE	TYATVYKGS	KLTDNLVALK	EIRLEHEEGA	360
361	PCTAIREVSL	LKDLKHANIV	TLHDIIHTEK	SLTLVFEYLD	KDLKQYLDDC	GNIINMHNVK	420
421	LFLFQLLRGL	AYCHRQKVLH	RDLKPQNLLI	NERGELKLAD	FGLARAKSIP	TKTYSNEVVT	480
481	LWYRPPDILL	GSTDYSTQID	MWGVGCIFYE	MATGRPLFPG	STVEEQLHFI	FRILGTPTEE	540
541	TWPGILSNEE	FKTYNPKYR	AEALLSHAPR	LSDGADLLT	KLLQFEGRNR	ISAEDAMKHP	600
601	FFLSLGERIH	KLPDTSIFA	LKEIQLQKEA	SLRSSMPDS	GRPAFRVVD	EFMT	660

1-218: GST **Red:** HIS6-tag **Pink:** Thrombin cleavage site **blue:** CDK16 fragment **boxed:** S153A

CDK16 wt ¹ Amino Acid Sequence							
1	MDRMKKIKRQ	LSMTRLGGRG	IDKTNGAPEQ	IGLDESGGGG	GSDPGEAPTR	AAPGELRSAR	60
61	GPLSSAPEIV	HEDLKMGS	ESDQASATSS	DEVQSPVRVR	MRNHPP RKIS	TEDINKRLSL	120
121	PADIRLPEGY	LEKLTLSPI	FDKPLSRRLR	RVSLSEIGFG	KLETYIKL	LGEGTYATVY	180
181	KGKSKLTDNL	VALKEIRLEH	EEGAPCTAIR	EVSLKDLKH	ANIVTLHDII	HTEKSLTLVF	240
241	EYLDKDLKQY	LDDCGNIINM	HNVKLFLFQL	LRGLAYCHRQ	KVLHRDLKPQ	NLLINER	300
301	KLADFG	LARA KSIPTK	TYSN EVVTLWYRPP	DILLGSTDYS	TQIDMWG	VGC IFYEMATGRP	360
361	LFPGSTVEEQ	LHFIFRILGT	PTEETWPGIL	SNEEFKTYNY	PKYRAEALLS	HAPRLDSDGA	420
421	DLTKLLQFE	GRNRISAEDA	MKHPFFLSLG	ERIKLPD	TT SIFALKEIQL	QKEASLRSSS	480
481	MPDSGRPAFR	VVDTEF					540

blue: CDK16 sequence expressed in fusion protein **Red:** variant in fusion protein

¹NCBI/Protein accession number NP_006192.1