

ProQinase™ CDK9/CycT1

cyclin dependent kinase 9 / CyclinT1

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK9

Synonyms: C-2k; CDC2L4; PITALRE; TAK; CDC2-related kinase

Product No.: 0371-0345-1

Lot: 016

Description: Human CDK9, full length, amino acids M₁-F₃₇₂ (as in [NCBI/Protein](#) entry NP_001252.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, and human CycT1, full length, amino acids M₁-K₇₂₆ (as in [NCBI/Protein](#) entry NP_001231.2), N-terminal HIS₆ fusion protein with a Thrombin cleavage site, coexpressed in Sf9 insect cells

Product identity: CDK9/CycT1 Lot 014, has been verified by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{GST-CDK9}: 72173 Da

Theoretical MW_{HIS-CycT1}: 85441 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!

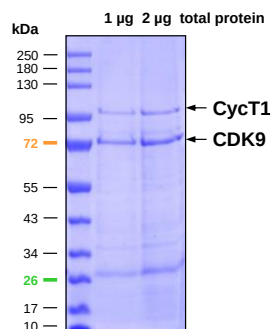
Protein concentration: 0.151 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

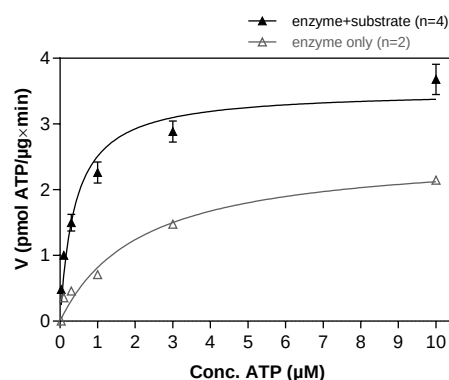
Specific kinase activity (P_i transfer): 3.5 pmol/µg*min

ATP-K_M: 0.4 µM

CDK9/CycT1 Lot 016:
Coomassie stain



CDK9/CycT1 Lot 016:
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-CHKtide 80 µg/ml
 - Kinase: 1 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

Sequence information

GST-CDK9 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSRMAKQY	DSVECPFCDE	VSKYEKLAKI	GQGTGFEVFK	ARHRKTGQKV	300
301	ALKKVLMEKE	KEGFPITALR	EIKILQLLKH	ENVVNLIEIC	RTKASPYNRC	KGSIYLVFDF	360
361	CEHDLAQLLS	NVLVKFTLSE	IKRVMQMLLN	GLYYIHRNKI	LHRDMKAANV	LITRDGVLKL	420
421	ADFLARAFS	LAKNSQPNRY	TNRVVTWYR	PELLLGERD	YGPPIDLWGA	GCIMAEMWTR	480
481	SPIMQGNTEQ	HQLALISQLC	GSITPEVWPN	VDNYELYEKL	ELVKGQKRV	KDRLKAYVRD	540
541	PYALDLIDKL	LVLDPAQRID	SDDALNHDFE	WSDPMPDLK	GMLSTHLSM	FEYLAPPRRK	600
601	GSQITQQSTN	QSRNPATTNQ	TEFERVF				660

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: CDK9

CDK9 wt ¹ Amino Acid Sequence							
1	MAKQYDSVEC	PFCDEVSKYE	KLAKIGQGTF	GEVFKARHRK	TGQKVALKKV	LMENEKEGFP	60
61	ITALREIKIL	QLLKHENNVN	LIEICRTKAS	PYNRCKGSIY	LVFDFCEHDL	AGLLSNVLVK	120
121	FTLSEIKRVM	QMLLNGLYYI	HRNKILHRDM	KAANVLITRD	GVLKLADFGI	ARAFSLAKNS	180
181	QPNRYTNRVV	TLWYRPPPELL	LGERDYGPPI	DLWGAGCIMA	EMWTRSPIMQ	GNTEQHQLAL	240
241	ISQLCGSITP	EVWPNVDNVE	LYEKLELVKG	QKRKVKDRK	AYVRDPYALD	LIDKLLVLDP	300
301	AQRIDSDDAL	NHDFFWSDPM	PSDLKGMST	HLTSMFEYLA	PPRRKGSQIT	QQSTNQSRNP	360
361	ATTNQTEFER	VF					420

blue: CDK9 sequence expressed in recombinant protein

¹[NCBI/Protein](https://www.ncbi.nlm.nih.gov/Protein/NP_001252.1) accession number NP_001252.1

HIS-CycT1 Recombinant Fusion Protein Amino Acid Sequence

1	MSPIDPMG	HH	HHHH	GRRRAS	VAAGI	LVPRG	SPGLDGIYAR	GIQAS	MEGER	KNNNKRWYFT	60
61	REQLNSPSR	RFGVDP	DKEL	SYRQQAANLL	QDMGQRLNVS	QLTINTAIVY	MHRFYMIQSF				120
121	TQFPNGSVAP	AALFLAAKVE	EQPKKLEHVI	KVAHTCLHPQ	ESLPDTRSEA	YLQQVQDLVI					180
181	LESIIQLTLG	FELTIDHPHT	HVVKCTQLVR	ASKDLAQTSY	FMATNSLHLT	TFSLQYTPPV					240
241	VACVCIHLAC	KWSNWEIPVS	TDGKHWWEYV	DATVTLELLD	ELTHEFLQIL	EKTPNRLKRI					300
301	WNWRACEAAK	KTKADDRGTD	EKTSEQTILN	MISQSSSDTT	IAGLMSMSTS	TTSAPVPSLPV					360
361	SESSSNLTS	VEMLPGKRWL	SSQPSFKLEP	TQGHRTSEN	ALTGVDHSLP	QDGSNAFISQ					420
421	KQNSKSVPSA	KVSLKEYRAK	HAEELAAQKR	QLENMEANVK	SQYAYAAQNL	LSHHDSSHSSV					480
481	ILKMPIEGSE	NPERPFLEKA	DKTALKMRIP	VAGGDKAASS	KPEEIKMRIK	VHAAADKHNS					540
541	VEDSVTKSRE	HKEKHKTHPS	NHHHHHNNHS	HKHSHSQLPV	GTGNKRPGBP	KHSSQTSNLA					600
601	HKTYLSLSSF	SSSSSTRKRG	PSEETGGAVF	DHPAKIAKST	KSSSLNFSFP	SLPTMGQMPG					660
661	HSSDTSGLSF	SQPSCKTRVP	HSKLDKGPTG	ANGHNTTQTI	DYQDTVNMLH	SLLSAQGVQP					720
721	TQPTAFEFVR	PYSDDLNP	RS	GGISSRS	SGNT	DKPRPPPLPS	EPPPPLPPLP	K			780

Red: HIS6-tag Pink: Thrombin cleavage site blue: CycT1

CycT1 wt² Amino Acid Sequence

1	MEGERKNNNK	RWYFTREQLE	NSPSRRFGVD	PDKELSYRQQ	AANLLQDMGQ	RLNVSQLTIN	60
61	TAIVYMHRFY	MIQSFTQFPG	NSVAPAAFL	AAKVEEQPKK	LEHVIKVAHT	CLHPQESLPD	120
121	TRSEAYLQQV	QDLVILESII	LQTLGFELTI	DHPHTHVVKC	TQLVRASKDL	AQTSYFMATN	180
181	SLHLTTFSLQ	YTPPVVACVC	IHLACKWSNW	EIPVSTDGKH	WWEYVDATVT	LELLDELTHE	240
241	FLQILEKTPN	RLKRIWNWRA	CEAAKTKAD	DRGTDEKTSE	QTILNMISQS	SSDTTIAGLM	300
301	SMSTSTTSV	PSLPVSEESS	SNLTSVEMLP	GKRWLSSQPS	FKLEPTQGHR	TSENALTGV	360
361	DHSLPQDGSN	AFISQKQNSK	SVPSAKVSLK	EYRAKHAEEL	AAQKRQLENM	EANVKSQYAY	420
421	AAQNLLSHHD	SHSSVILKMP	IEGSENPERP	FLEKADKTAL	KMRIPVAGGD	KAASSKPEEI	480
481	KMRIKVHAAA	DKHNSVEDSV	TKSREHKEKH	KTHPSNHHHH	HNHSHKHSH	SQLPVGTGNK	540
541	RPGDPKHSSQ	TSNLAHKTY	LSSSFSSSSS	TRKRGPSSEET	GGAVFDHPAK	IAKSTKSSSL	600
601	NFSFPSLPTM	GQMPGHSSDT	SGLSFSQPS	KTRVPKSLD	KGPTGANGHN	TTQTIDYQDT	660
661	VNMLHSLLSA	QGVQPTQPTA	FEFVRPYSY	LNPRSGGISS	RSGNTDKPRP	PPLPSEPPPP	720
721	LPPLPK						780

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

²NCBI/Protein accession number NP_001231.2

HGNC identifier CycT1: CCNT1

Recombinant Proteins