

## CDK9/CycT1

cyclin dependent kinase 9 / Cyclin T1

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK9

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

**Product No.:** 0371-0345-1

**Lot:** 004

**Description:** Human CDK9, full length, amino acids M<sub>1</sub>-F<sub>372</sub> (as in [NCBI/Protein](#) entry NP\_001252.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a Thrombin cleavage site, and human CycT1, full length, amino acids M<sub>1</sub>-K<sub>726</sub> (as in [NCBI/Protein](#) entry NP\_001231.2), N-terminal HIS<sub>6</sub> fusion protein with a Thrombin cleavage site, co-expressed in Sf9 insect cells

**Product identity:** CDK9/CycT1 Lot 004, was confirmed as CDK9/CycT1 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW<sub>GST-CDK9</sub>:** 72,173 Da

**Theoretical MW<sub>HIS-CycT1</sub>:** 85,441 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, 4 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:** 0.168 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): 26 pmol/µg × min

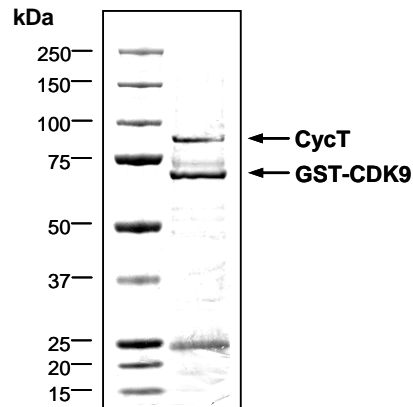
ATP-K<sub>M</sub>: 4 µM

### Additional assay technology:

CDK9/CycT1 Lot 004 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

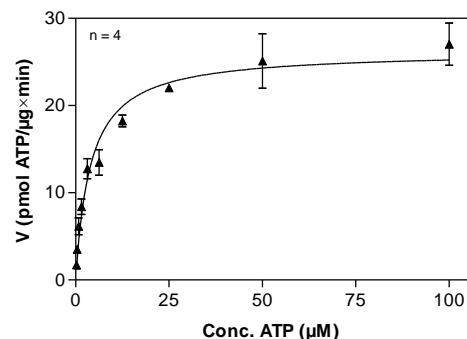
This product was manufactured at ProQinase in Freiburg, Germany, and is for in vitro research use only, not for use in humans or animals. ProQinase disclaims any warranty explicitly or implied that the use of the product or parts of the product is free from third party intellectual property claims unless this is explicitly stated.

### CDK9/CycT1 Lot 004: Coomassie stain



2.0 µg GST-CDK9/CycT

### CDK9/CycT1 Lot 004: Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



- 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, 200 µg/ml  
Kinase: 4 µg/ml
- Filter binding assay  
MSFC membrane (Millipore)

## CDK9/CycT1

Product No.: 0371-0345-1

GST-CDK9 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSRMAKQY	DSVECPFCDE	VSKYEKLAKI	GQGTFGVEFK	ARHRKTGQKV	300
301	ALKKVLMEKE	KEGFPITALR	EIKILQLLKH	ENVNLIIEIC	RTKASPYNRC	KGSIYLVDFE	360
361	CEHDLAAGLLS	NVLVKFTLSE	IKRVMQMLLN	GLYYIHRNKI	LHRDMKAANV	LITRDGVLKL	420
421	ADFGLARAFS	LAKNSQPNRY	TNRVVTWYR	PELLLGERD	YGPPIDLWGA	GCIMAEMWTR	480
481	SPIMQGNTEQ	HQLALISQLC	GSITPEVWPN	VDNYELYEKL	ELVKGQKRKV	KDRLKAYVRD	540
541	PYALDLIDKL	LVLDPAQRID	SDDALNHDFE	WSDPMPSDLK	GMLSTHLTSM	FEYLAPPRRK	600
601	GSQITQOSTN	QSRNPATTNQ	TEFERVF				660

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

CDK9 wt <sup>1</sup> Amino Acid Sequence							
1	MAKQYDSVEC	PFCDEVSKYE	KLAKIGQGT	GEVFKARHRK	TGQKVALKQV	LMENEKEGFP	60
61	ITALREIKIL	QLLKHENVVN	LIEICRTKAS	PYNRCKGSIY	LVFDFCEHDL	AGLLSNVLVK	120
121	FTLSEIKRVM	QMLLNGLYYI	HRNKILHRDM	KAANVLITRD	GVLKLAFLGL	ARAFSLAKNS	180
181	QPNRYTNRVV	TLWYRPEL	LGERDYGPPI	DLWGAGCIMA	EMWTRSPIMQ	GNTQHQQLAL	240
241	ISQLCGSITP	EVWPNVDNVE	LYEKLELVKG	QKRKVKDRLK	AYVRDPYALD	LIDKLLVLDP	300
301	AQRIDSDDAL	NHDFWSDPM	PSDLKGMST	HLTSMFEYLA	PPRRKGSQIT	QOSTNQSRNP	360
361	ATTNQTEFER	VF					420

blue: CDK9 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_001252.1

HIS-CycT1 Recombinant Fusion Protein Amino Acid Sequence

1	MSPIDPMGHH HHHHGRRRAS VAAGILVPRG SPGLDGIYAR GIQASMEGER KNNNKRWYFT	60
61	REQLENSPSR RFGVDPDKEL SYRQQAANLL QDMGQRLNVS QLTINTAIVY MHRFYMIQSF	120
121	TQFPNGSVAP AALFLAAKVE EQPKKLEHVI KVAHTCLHPQ ESLPDRSEA YLQQVQDLVI	180
181	LESIIQLTLG FELTIDHPHT HVVKCTQLVR ASKDLAQTYS FMATNSLHLT TFSLQYTPPV	240
241	VACVCIHLAC KWSNWEIPVS TDGKHWWEYV DATVTLELLD ELTHEFLQIL EKTPNRLKRI	300
301	WNWRACEAAK KTKADDRGTD EKTSEQTILN MISQSSSDTT IAGLMSMSTS TTSAVPSLPV	360
361	SESSSNLTS VEMLPGKRWL SSQPSFKLEP TQGHRTSENL ALTGVDHSLP QDGSNAFISQ	420
421	KQNSKSVPSA KVSLKEYRAK HAEELAAQKR QLENMEANVK SQYAYAAQNL LSHHDSHSSV	480
481	ILKMPIEGSE NPERPFLEKA DKTALKMRIP VAGGDKAASS KPEEIKMRIK VHAAADKHNS	540
541	VEDSVTKSRE HKEKHKTHPS NHHHHNHHHS HKHSHSOLPV GTGNKRPGDP KHSSQTSNLA	600
601	HKTSLSSSF SSSSTRKRG PSEETGGAVF KSSSLNFSFP SLPTMGMPG	660
661	HSSDTSGLSF SQPSCKTRVP HSKLDKGP TG ANGHNTTQTI DYQDVTNMLH SLLSAQGVQP	720
721	TQPTAFEFVR PYS DYLNPRS GGISSRSGNT DKPRPPPLPS EPPPPLPLP K	780

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

CycT1 wt<sup>2</sup> Amino Acid Sequence

1	MEGERKNNNK RWFYFTREOLE NSPSRRFGVD PDKELSYRQQ AANLLQDMGQ RLNVSQLTIN	60
61	TAIVYMHRFY MIQSFTQFPG NSVAPAALFL 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	SMSTSTTSAV PSLPVSEESS SNLTSVEMLP GKRWLSSQPS FKLEPTQGHR TSENALTV	360
361	DHSLPQDGSN AFISQKQNSK SVPSAKVSLK EYRAKHAEEL AAQKROLENM EANVKSQYAY	420
421	AAQNLLSHHD SHSSVILKMP IEGSENPERP FLEKADKTAL KMRIPVAGGD KAASSKPEEI	480
481	KMRIKVHAAA DKHNSVEDSV TKSREHKEKH KTHPSNHHHH HNHSHKSHS SQLPVG TG NK	540
541	RPGDPKHSSQ TSNLAHKTY S LSSSFSSSSS TRKRG PSEET GGAVFDHPAK IAKSTKSSSL	600
601	NFSFPLPTM GQMPGHSSDT SGLSFSQPSC KTRVPHSKLD KGPTGANGHN TTQTIDYQDT	660
661	VNMLHLLSA QGVQPTQPTA FEFVRPYS DY LNPRSGGIS RSGNTDKPRP PPLPSEPPP	720
721	LPLPK	780

blue: CycT1 sequence expressed in recombinant protein

<sup>2</sup>NCBI/Protein accession number NP\_001231.2  
HGNC identifier CycT1: CCNT1