

ProQinase™ CDK20/CycT1

cyclin dependent kinase 20

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK20

Synonyms: CAK-kinase p42, CCRK, CDCH, p42, PNQALRE

Product No.: 1528-0345-1

Lot: 008

Description: Human CDK20, amino acids M₁-G₃₄₆ (as in [NCBI/Protein](#) entry NP_001034892.1), N-terminal GST-HIS₆ fusion protein with a 3C cleavage site and human CycT1, amino acids M₁-L₇₂₆ (as in [NCBI/Protein](#) entry NP_001231.2), N-terminally fused to HIS₆-Thrombin cleavage site, coexpressed in Sf9 insect cells

Product identity: CDK20/CycT1 Lot 008, was confirmed as CDK20/CycT1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{GST-CDK20}: 66,969 Da

Theoretical MW_{CycT1}: 85,441 Da

Expression host: Sf9 insect cells

Purification: Immobilized Metal 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, 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: 0.213 µg/µl

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

Biochemical Parameters:

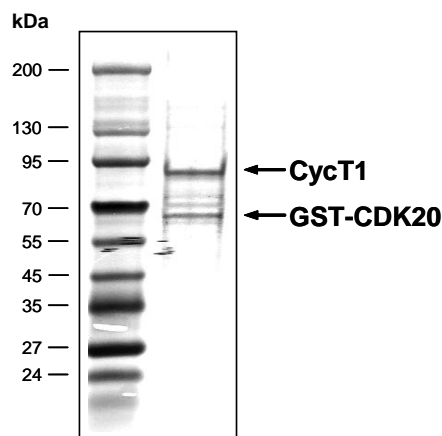
Specific kinase activity (P_i transfer): 10 pmol/µg × min

ATP-K_M: 7.6 µM

Additional assay technology:

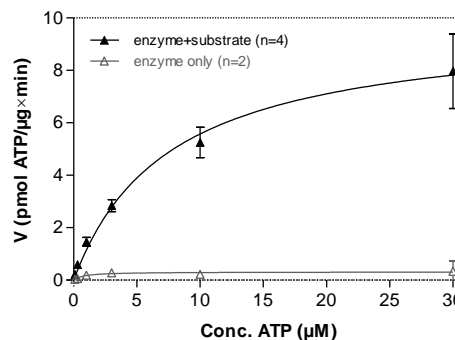
CDK20/CycT1 Lot 008 was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from Promega ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

**CDK20/CycT1 Lot 008:
Coomassie stain**



2.0 µg CDK20/CycT1

**CDK20/CycT1 Lot 008:
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: GSK3-derived peptide, 100 µg/ml

CDK20/CycT1: 4 µg/ml

• Filter binding assay

MSPH membrane (Millipore)

ProQinase™ CDK20/CycT1

Product No.: 1528-0345-1

GST-CDK20 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVLFCG	240
241	PLAMDQY CIL	GRIGEGAHI	VFKAKHVETG	EIVALKKVAL	RRLEDGFPNQ	ALREIKALQE	300
301	MEDNQYV VQH	KAVFPHGGGF	VLA FEFMLS D	LAEVVRHAQR	PLAQAQVKS Y	LQMLLKGVAF	360
361	CHANNIVHRD	LKPANLLISA	SGQLKIADFG	LARVFS PDGS	RLYTHQVATR	WYRAPELLYG	420
421	ARQYDQGV DL	WSVGCIMGEL	LNGSPLFP GK	NDIEQLCYVL	RILGTPNPQV	WPELTEL PDY	480
481	NKISFKEQVP	MPELEVLPDV	SPQALDLLGQ	FLLYPPHQRI	AASKALLHQY	FFTAPLPAHP	540
541	SELPIPQRLG	GPAPKAHPG	PHIHDFHVDR	PLEESLLNPE	LIRPFILEG		600

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: CDK20

CDK20 wt ¹ Amino Acid Sequence							
1	MDQY CILGRI	GEGAHGIVFK	AKHVETGEIV	ALKKVALRRL	EDGFPNQALR	EIKALQEMED	60
61	NQYV VQLKAV	FPHGGGFVLA	FEFMLS DLAE	VVRHAQRPLA	QAQVKS YLQM	LLKGVAFCHA	120
121	NNIVHRDLKP	ANLLISASGQ	LKIADFG LAR	VFSPDGSRLY	THQVATR WYR	APELLYGARQ	180
181	YDQGV DLWSV	GCIMGELLNG	SPLFP GKNDI	EQLCYVLRIL	GTPNPQVWPE	LTEL PDYNKI	240
241	SFKEQV PMP L	EEVLPDVSPQ	ALDLLQFLL	YPPHQRIAS	KALLHQYFFT	APLPAHPSEL	300
301	PIPQRLGGPA	PKAHPGPPHI	HDFHVDRPLE	ESLLNPELIR	PFILEG		360

blue: CDK20 sequence expressed in recombinant protein ¹NCBI/Protein accession number NP_001034892.1

HIS-CycT1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPIDPMGHH	HHHHGRRRAS	VAAGILVPRG	SPGLDGIYAR	GIQASMEGER	KNNKRWYFT	60
61	REQL ENSPSR	RFGVDPDKEL	SYRQQAANLL	QDMQRLNVS	QLTINTAIVY	MHRFYMIQSF	120
121	TQFP GNSVAP	AALFLAAKVE	EQPKLEHVI	KVAHTCLHPQ	ESLPDTRSEA	YLQVQDLVI	180
181	LESII LQTLG	FELTIDHPHT	HVVKCTQLVR	ASKDLAQTSY	FMATNSLHLT	TFSLQYTPPV	240
241	VACVCIHLAC	KWSNWEIPVS	TDGKHWWEYV	DATVTLELLD	ELTHEFLQIL	EKTPNRLKRI	300
301	WNWRACEAAK	KTKADDRGTD	EKTSEQTILN	MISQSSSDTT	IAGLMSMSTS	TTSAVPSLPV	360
361	SEESSSNLTS	VEMLPGKRWL	SSQPSFKLEP	TQGHRTSENL	ALTGV DHSLP	QDGSNAFISQ	420
421	KQNSKSVPSA	KVSLKEYRAK	HAELAAQKR	QLENMEANVK	SQYAYAAQNL	LSHDSHSSV	480
481	ILKMPIEGSE	NPERPFLEKA	DKTALKMRIP	VAGGDKAASS	KPEEIKMRIK	VHAAADKHNS	540
541	VEDSVTKSRE	HKEKHKTHPS	NHHHHNHHHS	HKHSHS QLPV	GTGNKRP GDP	KHSSQTSNLA	600
601	HKTYSLSSSF	SSSSSTRKRG	PSEETGGAVF	DHPAKIAKST	KSSSLNFSFP	SLPTMGQMPG	660
661	HSSDTSGLSF	SQPSCKTRVP	HSKLDKGPTG	ANGHNTTQTI	DYQDTV NMLH	SLLSAQGVQP	720
721	TQPTAFEFVR	PYSDYLNPRS	GGISSRS GNT	DKPRPPPLPS	EPPPLPLPLP	K	780

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: CycT1

CycT1 wt ² Amino Acid Sequence							
1	MEGERKNNNK	RWYFTREQLE	NSPSRRFGVD	PDKELSYRQQ	AANLLQDMGQ	RLNVSQLTIN	60
61	TAIVYMHRFY	MIQSFTQFPG	NSVAPAAFL	AAKVEEQPK	LEHVIVVAHT	CLHPQESLPD	120
121	TRSEAYLQVQ	QDLVILESII	LQTLGFELTI	DHPHTHVVKC	TQLVRASKDL	AQTSYFMATN	180
181	SLHLTTFSLQ	YTPPVACVC	IHLACKWSNW	EIPVSTDGKH	WWEYVDATVT	LELDELTHE	240
241	FLQILEKTPN	RLKRIWNWRA	CEAAKTKAD	DRGTDEKTSE	QTILNMISQS	SSDTTIAGLM	300
301	SMSTSTTSAV	PSLPVSEESS	SNLTSVEMLP	GKRWLSSQPS	FKLEPTQGHR	TSENALATGV	360
361	DHSLPQDGSN	AFISQKQNSK	SVPSAKVSLK	EYRAKHAEEL	AAQKRQLENM	EANVKSQYAY	420
421	AAQNLLSHHD	SHSSVILKMP	IEGSENPERP	FLEKADKTAL	KMRI PVAGGD	KAASSKPEEI	480
481	KMRIKVHAAA	DKHNSVEDSV	TKSREHKEKH	KTHPSNHHHH	HNHSHKHSH	SQLPVGTGNK	540
541	RPDGPKHSSQ	TSNLAHKTY S	LSSSFSSSSS	TRKRGPS EET	GGAVFDHPAK	IAKSTKSSSL	600
601	NFSFPLPTM	GQMPGHSSDT	SGLSFSQPS C	KTRVPHSKLD	KGPTGANGHN	TTQTIDYQDT	660
661	VNMLHSLLSA	QGVQPTQPTA	FEFVRPYS DY	LNPRSGGISS	RSGNTDKPRP	PPLPSEPPPP	720
721	LPPLPK						780

blue: CycT1 sequence expressed in recombinant protein ²NCBI/Protein accession number NP_001231.2

This product was manufactured at Reaction Biology in Freiburg, Germany, and is for in vitro research use only, not for use in humans or animals.
© European Union, 2020. Material may not be reproduced or distributed without written permission from Reaction Biology Europe GmbH