

ProQinase™ CDK20/CycH

cyclin dependent kinase 20

Recombinant Human Active Protein Kinase

HGNC Symbol: CDK20

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

Product No.: 1528-0360-1

Lot: 006

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 CycH, amino acids M₁-L₃₂₃ (as in [NCBI/Protein](#) entry NP_001230.1), N-terminally fused to HIS₆-Thrombin cleavage site, coexpressed in Sf9 insect cells

Product identity: CDK20/CycH Lot 006, was confirmed as CDK20/CycH by mass spectroscopy LC-ESI-MS/MS

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

Theoretical MW_{CycH}: 42,400 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: 0.280 µg/µl

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

Biochemical Parameters:

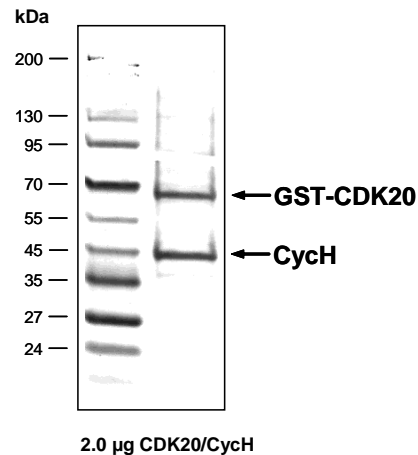
Specific kinase activity (P_i transfer): 7.4 pmol/µg × min

ATP-K_M: 4.8 µM

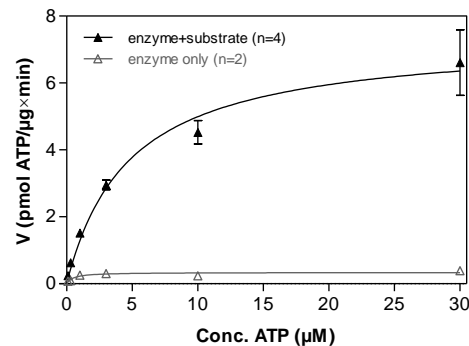
Additional assay technology:

CDK20/CycH Lot 006 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/CycH Lot 006:
Coomassie stain**



**CDK20/CycH Lot 006:
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/CycH: 4 µg/ml
- Filter binding assay
- MSPH membrane (Millipore)

ProQinase™ CDK20/CycH

Product No.: 1528-0360-1

GST-CDK20 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDKVLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVLFCG	240
241	PLAMDQY	GRIGEGAHI	VFKAKHVTG	EIVALKKVAL	RRLEDGFPNQ	ALREIKALQE	300
301	MEDNQYV	KAVFPHGGGF	VLAFEFMLS	LAEVVRHAQR	PLAQAQVKS	LQMLLKGVAF	360
361	CHANNIV	LKPANLLISA	SGQLKIADFG	LARVSPDGS	RLYTHQVATR	WYRAPELLYG	420
421	ARQYDQ	WSVGCIMGEL	LNGSPLFPGK	NDIEQLCYVL	RILGTPNPQV	WPELTELDPY	480
481	NKISFKE	MPLEEVLPDV	SPQALDLLGQ	FLLYPPHQRI	AASKALLHQY	FFTAPLPAHP	540
541	SELPIPQ	RLGPAKHPGP	PHIHDFHVDR	PLEESLLNPE	LIRPFILEG		600

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

CDK20 wt ¹ Amino Acid Sequence							
1	MDQYCILGRI	GEGAHI	VFKAKHVTG	EIVALKKVAL	RRLEDGFPNQ	ALREIKALQE	60
61	NQYVVQLKAV	FPHGGGFVLA	FEFMLS	DLAEVVRHAQR	PLAQAQVKS	LQMLLKGVAF	120
121	NNIVHRDLKP	ANLLISASGQ	LKIADFGLAR	VFSPDGSRLY	THQVATRWYR	APELLYGARQ	180
181	YDQGVLDLWSV	GCIMGELLNG	SPLFPKNDI	EQLCYVLRIL	GTPNPQVWPE	LTELDPYDKI	240
241	SFKEQVPMPL	EEVLPDVSPQ	ALDLLGQFL	YPPHQRIAS	KALLHQYFFT	APLPAHPSEL	300
301	PIPQRLGGPA	PKAHPGPHI	HDFHVRPLE	ESLLNPELIR	PFILEG		360

blue: CDK20 sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_001034892.1

HIS-CycH Recombinant Fusion Protein Amino Acid Sequence							
1	MSPIDPMGHH	HHHHGRRRAS	VAAGILVPRG	SPGLDGIYAR	GIQASMYHNS	SQKRHWTFSS	60
61	EEQLARLRAD	ANRKFRC	KAVANGKVL	PNDPVFLEP	HEEMTLCKYY		120
121	PRSVVGTACM	YFKRFYLNNS	VMEYHPRIIM	LTCAFLACKV	DEFNVSSPQF	VGNLRESPLG	180
181	QEKALEQILE	YELLLIQLN	FHLIVHNPYR	PFEGLIDLK	TRYPILLENPE	ILRKTADDFL	240
241	NRIALTDAYL	LYTPSQIALT	AILSSASRAG	ITMESYLSES	IMLKENRTCL	SQLLDIMKSM	300
301	RNLVKKYEP	RSEEVAVLKQ	KLERCHSAEL	ALNVITKRRK	GYEDDDYVSK	KSKHEEEEW	360
361	DDDLVESL						420

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

CycH wt ² Amino Acid Sequence								
1	MYHNSSQKRH	WTFSS	EEQLA	RLRADANRKF	RCKAVANGKV	LPNDPVFLEP	HEEMTLCKYY	60
61	EKRLLEFCSV	FKPAM	PRSVV	GTACMYFKRF	YLNNSVMEYH	PRIIMLTCAF	LACKVDEFNV	120
121	SSPQFVGNLR	ESPLGQEKAL	EQILEYELL	IQQLNFHLIV	HNPYRPFEGE	LIDLKTRYP		180
181	LENPEILRKT	ADDFLNRIAL	TDAYLLYTPS	QIALTAILSS	ASRAGITMES	YLSSESLMLKE		240
241	NRTCLSQLLD	IMKSMRNLVK	KYEP	PRSEEV	AVLQKLERC	HSAELALNVI	TKKRKGIEDD	300
301	DYVSKKSKHE	EEEW	DDDLV	ESL				360

blue: CycH sequence expressed in recombinant protein

²NCBI/Protein accession number NP_001230.1

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