

ProQinase™ PYK2

protein tyrosine kinase 2 beta

Recombinant Human Active Protein Kinase

HGNC Symbol: PTK2B

Synonyms: CADTK; CAKB; FADK2; FAK2; PKB; PTK; RAFTK; CAK beta

Product No.: 0363-0000-1

Lot: 001

Description: Human PYK2, full length, amino acids M₁-E₁₀₀₉ (as in NCBI/Protein entry NP_004094.3), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: PYK2 Lot 001, was confirmed as PYK2 by mass spectroscopy LC-ESI-MS/MS (Protagen AG, Germany)

Theoretical MW_{Fusion Protein}: 145,724 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, 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 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.076 µg/µl

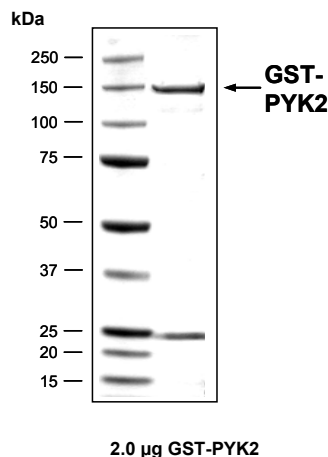
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

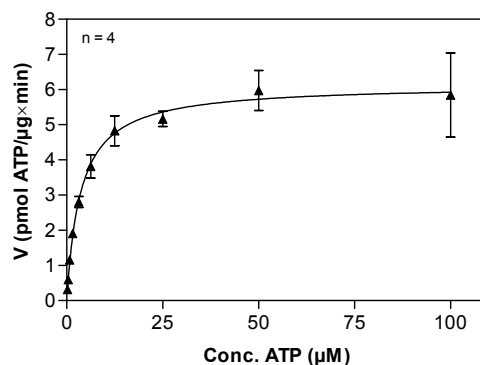
Specific kinase activity (P_i transfer): 6.1 pmol/µg×min

ATP-K_M: 3.6 µM

PYK2 Lot 001: Coomassie stain



PYK2 Lot 001: 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: Poly(Glu:Tyr)_{4:1}; 10 µg/ml
 - Kinase: 4.0 µg / ml
- Filter binding assay
 - MSFC membrane (Millipore)

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Recombinant Proteins

PYK2 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	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	LVPKGS	PGLD	GIYARGIQAS	MSGVSEPLSR	VKLGLRRPE	GPAEPMVVVP	VDVEKEDVRI	300
301	LKVCFYSNSF	NPGKNFKLVK	CTVQTEIREI	ITSILLSGRI	GPNIRLAECY	GLRLKHKMSD	360	
361	EIHWHLPQMT	VGEVQDKYEC	LHVEAEWRYD	LQIRYLPEDF	MESLKEDRTT	LLYFYQQLRN	420	
421	DYMORYASKV	SEGMAQLGQC	LELRRFFKDM	PHNALDKKSN	FELLEKEVGL	DLFFPKQMQE	480	
481	NLKPQKFRKM	IQQTFQQYAS	LREEECVMKF	FNTLAGFANI	DQETYRCELI	QGWNITVDLV	540	
541	IGPKGIRQLT	SQDAKPTCLA	EFKQIRSIRC	LPLEEGQAVL	QLGIEGAPQA	LSIKTSSLAE	600	
600	AENMADLIDG	YCRLQGEHQG	SLIIHPRKDG	EKRNSLPQIP	MLNLEARRSH	LSSECSIESD	660	
661	IYAEIPDETL	RRPGGPQYGI	AREDVVLNRI	LGEGFFGEVY	EGVYTNHKGE	KINVAVKTC	720	
721	KDCTLDNKEK	FMSEAVIMKN	LDHPIHVLI	GIIEEPTWI	IMELYPYGEL	GHYLERKNKS	780	
781	LKVLTLVLYS	LQICKAMAYL	ESINCVHRDI	AVRNILVASP	ECVKLGDFGL	SRYIEDEDYY	840	
841	KASVTRLPIK	WMSPEINFR	RFTTASDVWM	FAVCMWEILS	LKGQFFFWLE	NKDVGIVQEK	900	
901	GDRLPKPDLC	PPVLYTLMTR	CWDYDPSDRP	RFTLVCSLS	DVYQMEKDIA	MEQERNARYR	960	
961	TPKIMEPTAF	QEPPPKPSRP	KYRPPQTNL	LAPKLQFQVP	EGLCASSPTL	TSPMEYPSPV	1020	
1021	NSLHTPPLHR	HNVFKRHSMR	EEDFIQPSR	EEAQQLWEAE	KVKMRQILDK	QQQKQVEDYQ	1080	
1081	WLRQEEKSLD	PMVYMN	TSP	LTPEKEVGYL	EFTGPPQKPP	RLGAQSIQPT	ANLDRDIDL	1140
1141	YLNVMELVRA	VLELKNELCQ	LPPEGYVVVV	KNVGLTLRKL	IGSVDDLPS	LPSSSRTEIE	1200	
1201	GTQKLLNKDL	AELINKMRLA	QQNAVTSLS	ECKRQMLTAS	HTLAVDAKNL	LDAVDQAKVL	1260	
1261	ANLAHPPAE						1320	

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: PYK2 boxed: variation from RefSeq

PYK2 wt¹ Amino Acid Sequence

1	MSGVSEPLSR	VKLGLTRRPE	GPAEPMVVVP	VDVEKEDVRI	LKVCFYNSNF	NPGKNFKLVK	60
61	CTVQTEIREI	ITSILLSGRI	GPNIRLAECY	GLRLKHKMSD	EIHHLHPQMT	VGEVQDKYEC	120
121	LHVEAEWRYD	LQIRYLPEDF	MESLKEDRTT	LLYFYQQLRN	DYMORYASKV	SEGMAQLGQC	180
181	LELRRFFKDM	PHNALDKKSN	FELLEKEVGL	DLFFPKQMQE	NLKPQKFRKM	IQQTFQYAS	240
241	LREEECVMKF	FNTLAGFANI	DQETRYCELI	QGWNTVDLV	IGPKGIRQLT	SQDAKPTCLA	300
301	EFKQIRSIRC	LPLEEGQAVL	QLGIEGAPQA	LSIKTSSLAE	AENMADLIDG	YCRLQGEHQG	360
361	SLIIHPRKDG	EKRNSLPQIP	MLNLEARRSH	LSSECSIESD	IYAEIPDETL	RRPGGPQYGI	420
421	AREDVVLNRI	LGEGFFGEVY	EGVYTNHKG	KINVAVKTC	KDCTLDNKEK	FMSEAVIMKN	480
481	LDHPIHVLI	GIIEEPTWI	IMELYPYGEL	GHYLERKNKS	LKVLTLVLYS	LQICKAMAYL	540
541	ESINCVHRDI	AVRNILVASP	ECVKLGDFGL	SRYIEDEDY	KASVTRLPIK	WMSPEINFR	600
600	RFTTASDVWM	FAVCMWEILS	FKGQPFVLE	NKDVGIVLEK	GDRLPKPDLC	PPVLYTLMTR	660
661	CWDYDPSDRP	RFTLVCSLS	DVYQMEKDIA	MEQERNARYR	TPKILEPTAF	QEPPPKPSRP	720
721	KYRPPQTNL	LAPKLQFQVP	EGLCASSPTL	TSPMEYPSPV	NSLHTPPLHR	HNVFKRHSMR	780
781	EEDFIQPSR	EEAQQWAE	KVKMRQILDK	QQQQMVEDYQ	WLRQEEKSLD	PMVYMNDKSP	840
841	LTPEKEVGYL	EFTGPPQKPP	RLGAQSIQPT	ANLDRDIDL	YLNVMELVRA	VLELKNELCQ	900
901	LPPEGYVVVV	KNVGLTLRKL	IGSVDDLPS	LPSSSRTEIE	GTQKLLNKDL	AELINKMRLA	960
961	QQNAVTSLS	ECKRQMLTAS	HTLAVDAKNL	LDAVDQAKVL	ANLAHPPAE		1020

blue: PYK2 sequence expressed in fusion protein Red: variant in fusion protein

¹NCBI/Protein accession number NP_004094.3

F621L: undocumented SNP variation

L705M: documented SNP variation see NCBI/dbSNP ID: rs200441000

K838T: documented SNP variation see NCBI/dbSNP ID: rs751019