

## Product datasheet for **RC203808**

### **PYK2 (PTK2B) (NM\_004103) Human Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PYK2 (PTK2B) (NM_004103) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PTK2B
Synonyms:	CADTK; CAKB; FADK2; FAK2; PKB; PTK; PYK2; RAFTK
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC203808 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTCTGGGGTGTCCGAGCCCTGAGTCGAGTAAAGTTGGGCACGTTACGCCGGCCTGAAGGCCCTGCAG  
AGCCCATGGTGGTGTACCAGTAGATGTGAAAAGGAGGACGTGCGTATCCTCAAGTCTGCTTCTATAG  
CAACAGCTTCAATCCTGGGAAAACTTCAAAGTGGTCAAATGCACTGTCCAGACGGAGATCCGGGAGATC  
ATCACCTCCATCCTGCTGAGCGGGCGGATCGGGCCCAACATCCGGTTGGCTGAGTGTATGGGCTGAGGC  
TGAAGCACATGAAGTCCGATGAGATCCACTGGCTGCACCCACAGATGACAGTGGGTGAGGTGCAGGACAA  
GTATGAGTGTCTGCACGTGGAAGCCGAGTGGAGGTATGACCTTCAAATCCGCTACTTGCCAGAAGACTTC  
ATGGAGAGCCTGAAGGAGGACAGGACCAGCTGCTCTATTTTTACCAACAGCTCCGGAACGACTACATGC  
AGCGCTACGCCAGCAAGGTGAGGAGGGCATGGCCCTGCAGCTGGGTGCCTGGAGCTCAGGCGGTTCTT  
CAAGGATATGCCCCACAATGCACTTGACAAGAAGTCCAAGTTCGAGCTCCTAGAAAAGGAAGTGGGGCTG  
GACTTGTTTTTCCCAAAGCAGATGCAGGAGAAGTAAAGCCAAACAGTCCGGAAGATGATCCAGCAGA  
CCTTCCAGCAGTACGCCCTCGCTCAGGGAGGAGGTGCGTCAAGTTCCTCAACACTCGCCGGCTT  
CGCCAACATCGACCAGGAGACCTACCGCTGTGAAGTCAAGGATGGAACATTAAGTGTGGACCTGGTC  
ATTGGCCCTAAAGGGATCCGCCAGCTGACTAGTCAGGACGCAAAGCCACCTGCCTGGCCGAGTTCAAGC  
AGATCAGGTCCATCAGGTGCCTCCCGCTGGAGGAGGGCCAGGCAGTACTCAGCTGGGCATTGAAGGTGC  
CCCCCAGGCCCTTGTCCATCAAAACCTCATCCCTAGCAGAGGCTGAGAACATGGCTGACCTCATAGACGGC  
TACTGCCGGCTGCAGGGTGAACCAAGGCTCTCTCATCATCCATCCTAGGAAAGATGGTGAAGAAGCGGA  
ACAGCCTGCCCCAGATCCCATGCTAAACCTGGAGGCCCGGGTCCACCTCTCAGAGAGCTGCAGCAT  
AGAGTCAGACATCTACGAGAGATTCGACGAAACCTGCGAAGGCCCGGAGGTCCACAGTATGGCATT  
GCCCGTGAAGATGTGGTCTGAATCGTATCTTTGGGAAGGCTTTTTTTGGGGAGGTCTATGAAGGTGTCT  
ACACAAATCATAAAGGGGAGAAAATCAATGTAGCTGTCAAGACCTGCAAGAAAGACTGCACTCTGGACAA  
CAAGGAGAAGTTCATGAGCGAGGAGTATCATGAAGAAGCTCGACCACCCGCACATCGTGAAGGTGATC  
GGCATCATTGAAGAGGAGCCACCTGGATCATCATGGAATTGTATCCCTATGGGGAGCTGGGCCACTACC



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TGGAGCGGAACAAGAAGCTCCCTGAAGGTGCTCACCCCTCGTGTACTACTGCAGATATGCAAAGCCAT  
 GGCTACCTGGAGAGCATCAACTGCGTGACAGGGACATTGCTGTCCGGAACATCTGGTGGCCTCCCT  
 GAGTGTGTGAAGCTGGGGACTTTGGTCTTTCCCGGTACATTGAGGACGAGGACTATTACAAAGCCTCTG  
 TGACTCGTCTCCCATCAAAATGGATGTCCCAGAGTCCATTAACCTCCGACGCTTCACGACAGCCAGTGA  
 CGTCTGGATGTTCCCGTGTGCATGTGGGAGATCCTGAGCTTTGGGAAGCAGCCCTTCTTCTGGCTGGAG  
 AACAAAGGATGTCATCGGGGTGCTGGAGAAAGGAGACCCGGCTGCCAAGCCTGATCTGTCCACCCGGTCC  
 TTTATACCTCATGACCCGCTGCTGGGACTACGACCCAGTACCAGCCCGCTTACCCGAGCTGGTGTG  
 CAGCCTCAGTGAGCTTTATCAGATGGAGAAGGACATTGCCATGGAGCAAGAGAGGAATGCTGCTACCGA  
 ACCCCCAAATCTGGAGCCACAGCCTTCCAGGAACCCCAACCCAGCCAGCCAGCTAAGTACAGAC  
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 GGTGCGGGCCGTGCTGGAGCTCAAGAATGAGCTCTGTCAGCTGCCCCCGAGGGCTACGTGGTGGTGGT  
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 TTACAGGACAGAGATCGAGGGCACCCAGAAACTGCTCAACAAAGACCTGGCAGAGCTCATCAACAAGAT  
 GCGGCTGGCGCAGCAGAACGCCGTGACCTCCCTGAGTGAAGAGTGAAGAGGCAGATGCTGACGGCTTCA  
 CACACCTGGCTGTGGACGCCAAGAACCTGCTCGACGCTGTGGACCAGGCCAAGGTTCTGGCCAATCTGG  
 CCCACCCACCTGCAGAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC203808 protein sequence  
 Red=Cloning site Green=Tags(s)

MSGVSEPLSRVKLGLRRPEGPAEPMVVVVDVEKEDVRIKVKCFYSNSFNPKNFKLKCTVQTEIREI  
 ITSILLSGRIGPNIRLAECYGLRLKHKMSDEIHWLHPQMTVGEVQDKYECLHVEAEWRYDLQIRYLPEDF  
 MESLKEDRTLLLYFYQQLRNDYMQRYASKVSEGMALQLGCLELRFFKDMPHNALDKSNFELLEKEVGL  
 DLFFPKMQENLKPQFRKMIQQTFQYASLREEECVMKFFNTLAGFANIDQETYRCELIQGWNITVDLV  
 IGPKGIRQLTSQDAKPTCLAEFKQIRSIKPLLEEGQAVLQLGIEGAPQALSIKTSLLAEENMADLIDG  
 YCRLQGEHQGSLIIHPRKDGEKRNSLPQIPMLNLEARRSHLSESCSIESDIYAEIPDETLRRPGGPQYGI  
 AREDVVLNRILGEGFFGEVYEGVYTNHKGEKINVAVKTCCKDCTLDNKEKFMSEAVIMKNLDHPHIVKLI  
 GIIEEPTWIIIMELYPYGELGHYLERKNLSLKVLTLLVLSLQICKAMAYLESINCVHRDIAVRNIVASP  
 ECVKLGDFGLSRYIEDEDYKASVTRLPIKWMSPESINFRFTTASDVVMFAVCMWEILSFGKQPFWLE  
 NKDVIQVLEKGDRLPKPDLCPPVLYLMTRCWDYDPSDRPRFTELVCSLSDVYQMEKDIAMEQERNARYR  
 TPKILEPTAFQEPKPSRPKYRPPQNTLLAPKLQFQVPEGLCASSPTLTSPMEYPSVNSLHTPLHR  
 HNVFKRHSREEDFIQSSREEAQLWEAEKVKMRQILDKQKQMVEDYQWLRQEESLDPVMYMNKSP  
 LTPEKEVGYLEFTGPPQKPPRLGAQSIPTANLDRDLDL VYLNVMELVRAVLELKNELCQLPPEGYVVV  
 KNVGLTLRKLIGSVDDLPSLPSSSRTEIEGTQKLLNKDLAELINKMRLAQQNAVTSLSSECKRQMLTAS  
 HTLAVDAKNLLDAVDQAVLANLAHPPAE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6256\\_h03.zip](https://cdn.origene.com/chromatograms/mk6256_h03.zip)

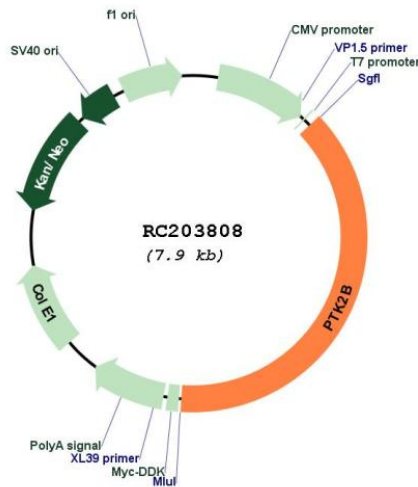
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**ACCN:**

NM\_004103

**ORF Size:**

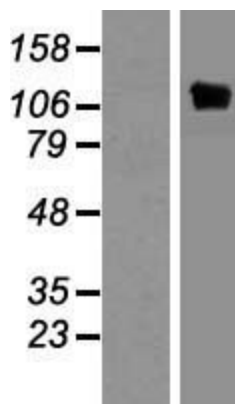
3027 bp

**OTI Disclaimer:**

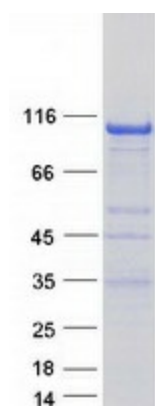
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_004103.4</a>
<b>RefSeq Size:</b>	4193 bp
<b>RefSeq ORF:</b>	3030 bp
<b>Locus ID:</b>	2185
<b>UniProt ID:</b>	<a href="#">Q14289</a>
<b>Cytogenetics:</b>	8p21.2
<b>Domains:</b>	B41, pkinase, TyrKc, S_TKc, Focal_AT
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Calcium signaling pathway, Chemokine signaling pathway, GnRH signaling pathway, Leukocyte transendothelial migration, Natural killer cell mediated cytotoxicity
<b>MW:</b>	115.9 kDa
<b>Gene Summary:</b>	This gene encodes a cytoplasmic protein tyrosine kinase which is involved in calcium-induced regulation of ion channels and activation of the map kinase signaling pathway. The encoded protein may represent an important signaling intermediate between neuropeptide-activated receptors or neurotransmitters that increase calcium flux and the downstream signals that regulate neuronal activity. The encoded protein undergoes rapid tyrosine phosphorylation and activation in response to increases in the intracellular calcium concentration, nicotinic acetylcholine receptor activation, membrane depolarization, or protein kinase C activation. This protein has been shown to bind CRK-associated substrate, nephrocystin, GTPase regulator associated with FAK, and the SH2 domain of GRB2. The encoded protein is a member of the FAK subfamily of protein tyrosine kinases but lacks significant sequence similarity to kinases from other subfamilies. Four transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

## Product images:



Western blot validation of overexpression lysate (Cat# [LY401325]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203808 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PTK2B protein (Cat# [TP303808]). The protein was produced from HEK293T cells transfected with PTK2B cDNA clone (Cat# RC203808) using MegaTran 2.0 (Cat# [TT210002]).