

## Product datasheet for **SC124895**

### **PYK2 (PTK2B) (NM\_173174) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	PYK2 (PTK2B) (NM_173174) Human Untagged Clone
Tag:	Tag Free
Symbol:	PYK2
Synonyms:	CADTK; CAKB; FADK2; FAK2; PKB; PTK; PYK2; RAFTK
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >NCBI ORF sequence for NM\_173174, the custom clone sequence may differ by one or more nucleotides

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ATGTCTGGGGTGTCCGAGCCCTGAGTCGAGTAAAGTTGGGCACGTTACGCCGCCCTGAAGGCCCTGCAG
AGCCCATGGTGGTACCAGTAGATGTGGAAAAGGAGGACGTGCGTATCCTCAAGTCTGCTTCTATAG
CAACAGCTTCAATCCTGGGAAAACTTCAAAGTGGTCAAATGCACTGTCCAGACGGAGATCCGGGAGATC
ATCACCTCCATCCTGCTGAGCGGGCGGATCGGGCCCAACATCCGGTTGGCTGAGTGTATGGGCTGAGGC
TGAAGCACATGAAGTCCGATGAGATCCACTGGCTGCACCCACAGATGACGGTGGGTGAGGTGCAGGACAA
GTATGAGTGTCTGCACGTGGAAGCCGAGTGGAGGTATGACCTTCAAATCCGCTACTTGCCAGAAGACTTC
ATGGAGAGCCTGAAGGAGGACAGGACCACGCTGCTCTATTTTTACCAACAGCTCCGGAACGACTACATGC
AGCGCTACGCCAGCAAGGTGAGCGAGGGCATGGCCCTGCAGCTGGGCTGCCTGGAGCTCAGGCGGTTCTT
CAAGGATATGCCCAACAATGCACTTGACAAGAAGTCAAATTCGAGCTCTAGAAAAGGAAGTGGGGCTG
GACTTGTTTTTCCCAAAGCAGATGCAGGAGAATTAAGCCCAACAGTTCGGAAAGATGATCCAGCAGA
CCTTCCAGCAGTACGCCCTCGCTCAGGGAGGAGGTGCGTCATGAAGTTCTTCAACTCTCGCCGGCTT
CGCCAACATCGACCAGGAGACCTACCGCTGTGAACCTATTCAAGGATGGAACATTAAGTGTGGACCTGGTC
ATTGGCCCTAAAGGGATCCGCCAGCTGACTAGTCAGGACGCAAAGCCACCTGCCTGGCCGAGTTCAAGC
AGATCAGGTCCATCAGGTGCCTCCCGCTGGAGGAGGGCCAGGCAGTACTTCAGCTGGGCATTGAAGGTGC
CCCCCAGGCCCTTGTCCATCAAAACCTCATCCCTAGCAGAGGCTGAGAACATGGCTGACCTCATAGACGGC
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ACAGCCTGCCCCAGATCCCATGCTAAACCTGGAGGCCCGGGCGTCCACCTCTCAGAGAGCTGCAGCAT
AGACTCAGACATCTACGACAGAGATCCCGACGAAACCTGCGAAGGCCCGGAGGTCCACAGTATGGCATT
GCCCGTGAAGATGTGGTCTGAATCGTATTCTTGGGGAAGGCTTTTTGGGGAGGTCTATGAAGGTCTCT
ACACAAATCACAAAGGGGAGAAAATCAATGTAGCTGTCAAGACCTGCAAGAAAGACTGCACTCTGGACAA
CAAGGAGAAGTTCATGAGCGAGGAGTGCATGAAGAACCTCGACCACCCGCACATCGTGAAGCTGATC
GGCATCATTGAAGAGGAGCCACCTGGATCATCATGGAATTGTATCCCTATGGGGAGCTGGGCCACTACC
TGGAGCGGAACAAGAACTCCCTGAAGGTGCTCACCTCGTGTACTACTGCAGATATGCAAAGCCAT
GGCCTACCTGGAGAGCATCAACTGCGTGCACAGGGACATTGCTGTCCGGAACATCCTGGTGGCCTCCCT
GAGTGTGTGAAGCTGGGGACTTTGGTCTTTCCCGGTACATTGAGGACGAGGACTATTACAAAGCCTCTG
TGACTCGTCTCCCATCAAATGGATGTCCCCAGAGTCCATTAACCTCCGACGCTTCACGACAGCCAGTGA
CGTCTGGATGTTGCCGTGTGCATGTGGGAGATCCTGAGCTTTGGGAAGCAGCCCTTCTTCTGGCTGGAG
AACAAGGATGTCATCGGGGTGCTGGAGAAAGGAGACCGGCTGCCAAGCCTGATCTGTGCCACCGTCC
TTTATACCTCATGACCCGCTGTGGGACTACGACCCAGTGACCGGCCCGCTTACCAGAGCTGGTGTG
CAGCCTCAGTGACGTTTATCAGATGGAGAAGGACATTGCCATGGAGCAAGAGAGGAATGCTCGTACCGA
ACCCCCAAAATCTTGGAGCCACAGCCTTCCAGGAACCCCAAGCCAGCCGACCTAAGTACAGAC
CCCCTCCGCAAACCAACCTCCTGGCTCCAAAGTGCAGTTCAGGTTCTGAGGGTCTGTGTGCCAGCTC
TCCTACGCTCACAGCCCTATGGAGTATCCATCTCCCGTAACTACTGCACACCCACCTCTCCACCGG
CACAAATGCTTCAAACGCCACAGCATGCGGGAGGAGGACTTCATCAACCCAGCAGCCGAGAAGAGGGCC
AGCAGCTGTGGGAGGCTGAAAAGGTCAAATGCGGCAAATCCTGGACAAACAGCAGAAGCAGATGGTGGG
GGACTACCAAGTGGCTCAGGCAGGAGGAGAAGTCCCTGGACCCCATGGTTTATATGAATGATAAGTCCCA
TTGACGCCAGAGAAGGAGGTGCGCTACCTGGAGTTCACAGGGCCCCACAGAAGCCCCGAGGCTGGGCG
CACAGTCCATCCAGCCACAGCTAACCTGGACCGGACTGATGACCTGGTGTACCTCAATGTCATGGAGCT
GGTGGGGCCGTGCTGGAGCTCAAGAAATGAGCTGTGTCAGCTGCCCCCGAGGGCTACGTGGTGGTGGT
AAGAATGTGGGGCTGACCCTGCGGAAGCTCATCGGGAGCGTGGATGATCTCTGCCTTCTTGGCGTCAT
CTTACGGACAGAGATCGAGGGCACCCAGAACTGCTCAACAAAGACCTGGCAGAGCTCATCAACAAGAT
GCGGCTGGCACAGCAGAACGCCGTGACCTCCCTAAGTGAAGGAGTGAAGAGGCAGATGCTGACGGCTTCA
CACACCCTGGCTGTGGACGCCAAGAACCTGCTCGACGCTGTGGACCAGGCCAAGGTTCTGGCCAATCTGG
CCCACCCACCTGCAGAGTGA
    
```

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_173174 unedited  
 CATTCCCCGCCCCGCCGATTGGGCGGTAGGCGTGCACGGTGGGAGGTCTATATAAGC  
 AGAGTTTATTTAGGTGACACTATAGAATACAAGCTACTTGTCTTTTTGCAGCGGCTGC  
 GAATTCGGCACGAGGCTTTTACTCAGCCACAGCCTCCGGAGCCGTTGCACACCTACCTGC  
 CCGGCCGACTTACCTGTACTTGCCGCGTCCCAGGCTCACCTGGCGGTGCCGAGGAGTAG  
 TCGCTGGAGTCCGCGCTCCCTGGGACTGCAATGTCCGGTCTTAGCTGCTGCCTGAGAG  
 GATGCTGGGGTGTCCGAGCCCCGAGCCGAGTAAAGTTGGGCACATTACGCCGGCCTGA  
 AGGCCCTGCAGAGCCCATGGTGGTGGTACCAGTAGATGTGAAAAGGAGGACGTGCGTAT  
 CCTCAAGGTCTGCTTCTATAGCAACAGCTTCAATCCTGGGAAGAACTTCAAACCTGGTCAA  
 ATGCACTGTCCAGACGGAGATCCGGGAGAGCATCACCTCCATCCTGCTGAGCGGGCGGAT  
 CGGGCCCAACATCCGGATGGCTGAGTGCTATGGGCTGAGGCTGAAGCACATGAAGCCGA  
 TGAGATCCACTGGCTGCACCCACAGATGACGGTGGGTGAGGTGCAGGACAAGTATGAGTG  
 TCTGCACGTGGAAGCCGAGTGGAGGTATGACCTTCAAATCCGCTACTTGCCAGCAGACTC  
 CATGGAGAGCCTGCAAGAGGACAGGACCAGCTGCTCTATTTTTACCAACAGCTCCGAAC  
 GACTACATGCAGCGCTACGCCAGCAGGTACCCGAGGGCATGGCCCTGCAGCTGGGCTGCC  
 TGGAGCTCANGCGTTCTCCAGGNATATGCCCCACATGCACTTGACAAGAAGTCCACTTC  
 CAGCTCTACAAAGGAAGGGGGCTGCCACTGTTTTTCCCC

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_173174 unedited  
 TCCCCACCATNGACATGGGTGATGGCAATTCCAGGCCAGAATAGCACTGGGGAAGGGTAC  
 ACAGGCATGCCACCCGGTACTGTTCCAGGAAAAGCTATGACCGCGCCGCAATCTAGAGT  
 CGAGTT  
 TTTTTTTTTTTTTTTTTTTTTTTTTTTNCAANACAAGAAAAAAAAGTTTACGCAAAACAT  
 GGAAAAAAAAGGGGAAACATAAAATGTGGGCGAGGGGAAAAAAAAGGAGACTTAAA  
 AAAAACTAAAGCAAGGGAAAGGAAAATAAGAAATATTGCATCTGCTTTGAGAAAAACAA  
 GTTCAGCCCCATTTTTTATTTCTAAGAGCTGGAATTTGGACTTCCCGCCAAGTGCATTGT  
 GGAGTACAACATATGAAGAACCCTGAGCTCCAGAAAGCCAGCTGCAGGGACATGCC  
 TCACTGACTCTTGATGGAGAACAGATGCATGTAATCCAACCGAAACTGTAGAAAAAAA  
 AAAGCAACGTGCGTCGTGCCATATTCAGGCTTACACGAAGACTTATGGCAAGGAGCGG  
 ATTTTAAAAGAAAACCTCCACTCGGCTTCCACGTGCAGACAGTAATACTTGTCTGGATC  
 TCACAAACCGAAATCAGTGGGTGCAGCCAGAGGATCTCATCGGAATTCAGTGCTTCAGC  
 CGCAGCCATAGCAATAAGCCAACCGCATGTTGGACCCGATCCGCCAGCTCAGCAGGAAG  
 GAAGGGAAGATCCCCGGGACTCCGGTCCGACAGTGCATTTGAACAGTTTGAAGTCCCTC  
 CAAGAA

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_173174

**Insert Size:**

4700 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

**Components:** 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).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
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.

**RefSeq:** [NM\\_173174.1](#), [NP\\_775266.1](#)

**RefSeq Size:** 4715 bp

**RefSeq ORF:** 3030 bp

**Locus ID:** 2185

**UniProt ID:** [Q14289](#)

**Cytogenetics:** 8p21.2

**Protein Families:** Druggable Genome, Protein Kinase

**Protein Pathways:** Calcium signaling pathway, Chemokine signaling pathway, GnRH signaling pathway, Leukocyte transendothelial migration, Natural killer cell mediated cytotoxicity

**Gene Summary:**

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]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longer isoform (a). Variants 1, 2, and 3 all encode isoform a.