

## Product datasheet for **SC323396**

### **PKN2 (NM\_006256) Human Untagged Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PKN2 (NM_006256) Human Untagged Clone
Tag:	Tag Free
Symbol:	PKN2
Synonyms:	Pak-2; PAK2; PRK2; PRKCL2; PRO2042; STK7
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC323396 sequence for NM_006256 edited (data generated by NextGen Sequencing)

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ATGGCGTCCAACCCCGAACGGGGGAGATTCTGCTCACGGAAGTGCAGGGGATTCCCGA
AGTCTTCCGTTTTCTGAGAATGTGAGTGCTGTTCAAAAATTAGACTTTTTCAGATACAATG
GTGCAGCAGAAATTGGATGATATCAAGGATCGAATTAAGAGAGAAATAAGGAAAGAACTG
AAAATCAAAGAAGGAGCTGAAAATCTGAGGAAAGTCAACAAGATAAAAAAGTTTGGCT
TATGTAGACAACATTTTGA AAAAATCAAATAAAAAATTAGAAGAACTACATCACAAGCTG
CAGGAATTAATGCACATATTGTTGTATCAGATCCAGAAGATATTACAGATTGCCCAAGG
ACTCCAGATACTCAAATAATGACCTCGTTGTTCTACTAGCAACAATAGATTGAAGGCC
TTACAAAAACAATTGGATATAGAACTTAAAGTAAAACAAGGTGCAGAGAATATGATACAG
ATGTATTCAAATGGATCTTCAAAGGATCGGAAACTCCATGGTACAGCTCAGCAACTGCTC
CAGGACAGCAAGACAAAAATAGAAGTCATACGAATGCAGATTCTTCAGGCAGTCCAGACT
AATGAATTGGCTTTTGTATAATGCAAAACCTGTGATAAGTCTCTTGAACCTTCGGATGGAA
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CTATCCAAACCAGCAGCACTAACAGGTACTTTGGAAGTTCGTCTTATGGGCTGCCAAGAT
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CCAAGTAAAACAGATCATCTTTCATGAGCAGAACGAGTAAAAGTAAAAGCGGAAGTAGT
CGAAATCTTCTAAAACCGATGACTTGTCCAATGATGTCTGTGCTGTTTTGAAGCTCGAT
AATACTGTGGTTGGCCAACTAGCTGGAAACCCATTTCCAATCAGTCATGGGACCAGAAG
TTTACTGGAAGTGGACAGGTACGTGAACTGGAATTTTCAGTTTATTGGCGTGATTGG
CGGTCTGTGTGCTGTAAAATTTCTGAGGTTAGAAGATTTTTTAGACAACCAACGGCAT
GGCATGTGTCTCTATTTGGAACCAAGGGTACTTTATTTGCAGAGTTACCTTTTTTAAT
CCAGTTATTGAAAGAAGACCAAACTTCAAAGACAAAAGAAAATTTTTTCAAAGCAACAA

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GGCAAAACATTTCTCAGAGCTCCTCAAATGAATATTAATATTGCCACTTGGGGAAGGCTA
GTAAGAAGAGCTATTCTACAGTAAATCATTCTGGCACCTTCAGCCCTCAAGCTCCTGTG
CCTACTACAGTGCCAGTGGTTGATGTACGCATCCCTCAACTAGCACCTCCAGCTAGTGAT
TCTACAGTAACCAAAATGGACTTTGATCTTGAGCCTGAACCTCCTCCAGCCCCACCACGA
GCTTCTTCTCTTGAGAAATAGATGAATCTTCTGAATTAAGAGTTTTGGATATACCAGGA
CAGGATTCAGAGACTGTTTTTGTATTTCCAGAATGACAGAAATAGTATACTTCCAAATCT
CAATCTGAATACAAGCCTGATACTCCTCAGTCAGGCCTAGAATATAGTGGTATTCAAGAA
CTTGAGGACAGAAGATCTCAGCAAAGGTTTCAGTTTAATCTACAAGATTTTCAGGTGTTGT
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GAGATGTTTGCTATAAAAGCCTTAAAGAAAAGGAGATATTGTGGCTCGAGATGAAGTAGAC
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AGAGATTTGAAATGGATAAATTATTGCTAGATACAGAGGGCTTTGTGAAATTTGCTGAT
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TCTACAGAAGCCATTTCTATAATGAGAAGGCTGTTAAGAAGAAATCCTGAACGGCGCCTT
GGGGCTAGCGAGAAAGATGCAGAGGATGTAAGAAAGCACCATTTTTCCGGCTAATTGAT
TGGAGCGCTCTGATGGACAAAAAAGTAAAGCCACCATTTATACCTACCATAAGAGGACGA
GAAGATTTAGTAATTTTGTATGATGAATTTACCTCAGAAGCACCTATTCTGACTCCACCT
CGAGAACCAAGGATACTTTCCGGAAGAGGAGCAGGAAATGTTTCAGAGATTTTGACTACATT
GCTGATTGGTGTTAA
    
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Clone variation with respect to NM\_006256.2

**5' Read Nucleotide Sequence:**

>OriGene 5' read for mutant NM\_006256 unedited  
 CCCGCCGTTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAA  
 CCGTCAGAAATTTTGAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGCCTCGTGCCGAATT  
 CGGCACGAGGGCCCCGTCGCCCTTCTCCCTTCGCCAGAGGGCGGCCGCTCCAGGTGCGGAGTCCATACC  
 GGAGCGCAATGGCGTCCAACCCGAACGGGGGAGATTCTGCTCACGGAAGTGCAGGGGGATTCCCGAAG  
 TCTTCCGTTTTCTGAGAATGTGAGTGTGTTCAAAAATTAGACTTTTTCAGATACAATGGTGCAGCAGAAA  
 ATTTGGATGATATCAAGGATCGAATTAAGAGAGAAAATAAGGAAAGACCTGAAAATCAAAGAAGGAAGCT  
 TGAATCCTGAGGAAAGTCCCACCAGAATAAAAAAGTTTGCCTTATTGTAGAACAACATTTTGAAGAAA  
 ATCAAAAATAAAAATTAGAAGACCTACATCACCAGGCTGGCAGGAATAAAATGGCACATATGGTTGATTA  
 GGATTCGAAGAATTTACGGATTGCCAAAGGCTTCCGAACCTCCAAAATAATGACCCTTGTGTGTTCTCT  
 GAGCACTATGATTGAAGGCTTAAAAACCTTGGTATTAGACCTAGGTACACAGTCCGAGAATGTGATC  
 CAGTGTTCATGGATCTCAGAGTCGGACTCTAGTGTAAACGCTCAACTGGCTCGGACAGGACAATTAGAT  
 TCACATGCGATTCTGAACCGCATGATGGCTGTAAAGCACTGTAAGTTGAATCGGAGAATAGCCCTTCGA  
 TTGCAACAAATGTCAAGTGAATTTCTGCGATGCCCGAGGCTTTA

**Kinase Domain Sequence:**

>SC323396 kinase domain raw sequence. By performing [BLASTX](#) analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation  
 TWGAKGCTGTGCTKCTTGGGAGAGGACATTTTGAAGGTGCTTTTAGCTGAATATAAAAAACAAAATGAG  
 ATGTTTGTATAATGGCCTTAAAGAAAAGGAGATATTGTGGCTCGAGATGAAGTAGACAGCCTGATGTGTG  
 AAAAAAGAATTTTGAAGTGTGAATAGTGAAGGCATCCCTTTTTGGTGAACCTTTTTGCATGTTTCCA  
 AACCAAGAGCATGTTTGTGTTGTAATGGAATATGCTGCCGGTGG

**Restriction Sites:**

Please inquire

**ACCN:**

NM\_006256

<b>Insert Size:</b>	3180 bp
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<b>OTI Annotation:</b>	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." <u>Cell. 2008 May p536-548.</u>
<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>	<u>NM_006256.1, NP_006247.1</u>
<b>RefSeq Size:</b>	3255 bp
<b>RefSeq ORF:</b>	2955 bp
<b>Locus ID:</b>	5586
<b>UniProt ID:</b>	<u>Q16513</u>
<b>Cytogenetics:</b>	1p22.2
<b>Domains:</b>	C2, pkinase, HR1, S_TK_X, TyrKc, S_TKc
<b>Protein Families:</b>	Druggable Genome, Protein Kinase

**Gene Summary:**

PKC-related serine/threonine-protein kinase and Rho/Rac effector protein that participates in specific signal transduction responses in the cell. Plays a role in the regulation of cell cycle progression, actin cytoskeleton assembly, cell migration, cell adhesion, tumor cell invasion and transcription activation signaling processes. Phosphorylates CTTN in hyaluronan-induced astrocytes and hence decreases CTTN ability to associate with filamentous actin. Phosphorylates HDAC5, therefore lead to impair HDAC5 import. Direct RhoA target required for the regulation of the maturation of primordial junctions into apical junction formation in bronchial epithelial cells. Required for G2/M phases of the cell cycle progression and abscission during cytokinesis in a ECT2-dependent manner. Stimulates FYN kinase activity that is required for establishment of skin cell-cell adhesion during keratinocytes differentiation. Regulates epithelial bladder cells speed and direction of movement during cell migration and tumor cell invasion. Inhibits Akt pro-survival-induced kinase activity. Mediates Rho protein-induced transcriptional activation via the c-fos serum response factor (SRF). Involved in the negative regulation of ciliogenesis (PubMed:27104747).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.