

## Product datasheet for **MC224824**

### Pik3c2a (NM\_011083) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Pik3c2a (NM\_011083) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Pik3c2a  
**Synonyms:** Cpk-m; PI3KC2  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224824 representing NM\_011083  
 Red=Cloning site Blue=ORF Orange=Stop codon

CTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC**GGCGC**  
**GCCC**

ATGGCTCAGATTTCCAACAACAGTGAATTTAAACAATGTTTCATCTTCACATCCAGAACCAATAAGAACCA  
 AAGATGTGAACAAAGCAGAAGCGTTACAGATGGAAGCAGAAGCCTTAGCAAACTGCAGAAGGATAGACA  
 AATGACTGACAGCCCAAGAGGCTTTGAGCTGTCTAGCAGCACTAGACAAAGAACAAGGTTTTAACAAA  
 CAGGATTATGATCTCATGGTGTTCCTGAGTTGGATTCCCAAAAAGAGCAGTAGATATTGATGTAGAAA  
 AGCTCACCCAGGCTGAACCTTGAGAAGATATTGCTGGACGACAATTTTGAAGCTAGAAAACCTCCTGCATT  
 GCCAGTTACTCCTGTTCTGAGCCCTTCGTTCTCAACACAGCTGTATCTTAGACCTAGTGGTCAAAGAGGC  
 CAGTGGCCCCCTGGATTATGCGGGCCTCCACGTACACTTTACCTTCTACTTATCCTTCAGCATAACAGTA  
 AACAGGCCACATTCAGAATGGCTTCAGTCCAAGGATGCCCACTTTTCCATCAACAGAGTCTGTATATTT  
 AAGACTTCCTGGACAGTCTCCATATTTTTCATATCCTTTGACACCTGCCACACCATTTTATCCACAAGGA  
 AGTTTACCAGTCTATCGGCCACTAGTCAGTCTGACATGGCAAACTATTTGAAAAATAGCAAGTACCT  
 CAGAATTTTTAAAAATGGGAAAGCAAGGACTGATTTGGAGATAGCAAACTCGAAAGCTTCAGCTGCAA  
 TCTACAGATATCTCAAAGTCTGAAGACATCAATAAGTTTGATTGGTTAGACTTGGATCCTCTGAGTAAG  
 CCTAAGGTAGACTATGTGGAGGTGTAGAACATGAAGAAGAGAAGAAGGATCCAGTTTTGCTAGCAGAGG  
 ATCCTTGGGATGCTGTTCTTCTGAAGAGAGATCGCCAAGTTGTCACCTAGAAAGAAAGTGAATGGAAA  
 ATCCCTTTCTGGGGCAACTGTAACAAGAAGCCAGTCTTTAATCATTGGACAGCTCAATTTACAAAAGCC  
 CAGGGCCAAGTATCTCAGAAAGACCCAAATGGGACCAGTAGTTTGCCAAGTGAAGTTCTCTTCTACAAG  
 AATTTGAAGTACAGAATGACGAGGTGGCAGCTTTTGTCAATCCATTATGAAATTGAAGACCAAATTTCC  
 ATATACTGACTCACTGCACAAATCCAGGCTATTTGTTAAGTCCAGTACAGTCAAAGAAACATGTGTGGG  
 GAGAATGCCAGTGTGAAGTCTCCATTGAAATTGAAGGGCTTCAACTACCAGTTACTTTTACATGTGATG  
 TGAGTTCTACTGTAGAAATAATTATAATGCAAGCCCTTTGCTGGGTACATGATGACTTGAATCAAGTGGA  
 GTTTGGCAGCTACATTCTGAAAGTTTGTGGTCAAGAGGAGTTCTACAGAATAATCATTGCCTTGGAAAGT  
 CACGAACATATTCAAAATTGTCGAAAATGGGACACAGAGATTAATTACAGCTCTTGACCTTGAGTGCAA



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TGTGCCAGAATCTGGCTCGAACAGCAGAAGATGATGAAGCACCTGTGGATTTAAACAAACTTGTATCA  
 AATAGAAAAACCTTATAAAGAAGTCATGACAAGACACCCTGTTGAAGAGCTCTTAGATTCCTATCACTAC  
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 AAATTTGTAGTGTCTTAGATGGGTGGAGACCCCTCCGTTACAGAAGCAGTGAAGAAGTTAAAGCGAGC  
 AGTTAACCTTCCAAGGAATAAAAGTGTGATGTGACTTCATTATCTGGAAGTGACACAAGGAAGAACTCA  
 ACTAAGGGGTCACTGAATCCTGAAAATCCTGTTCAAGTAAGCATGGATCACCTAACACAGCGATTTATG  
 ATCTTCTCAGGCTCCATGCAAATCTAGTAGGTGTTCTACAGGCTGTCCCGAGGGAGCAGGAACATCAA  
 GGAAGCATGGACTGCAACGGAGCAGCTCCAGTTCAGTGTCTATGCCGCACACGGAATTTCCAGTAACTGG  
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 AGCAGTGGAAAGTCCCCTGATTCTAATAAACAGAGAAAGGGGCCAGAAGCTCTGGCAAAGTTTCTTTAA  
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 TTCTAAAGAAGATAAGGTCTTTTTGTGGGAAAACCGCTATTATTGCCATAAACATCCAAATTTGCTTCCG  
 AAGATATTAGCAAGTGCTCAAACCTGGAAGTGGGCTAATCTTGCCAAAACCTACTCATTGCTGCATCAGT  
 GGCCGCCATTGTGCCACTAGCTGCATTGGAGCTCCTTGATGCAAAATTTGCTGATCAGGAGGTGCGATC  
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 GCTTTGAAATATGAAATTTATTTGAATAGTTCACTAGTGCCTTCTTCTGTCCAGGGCATTGGGAAACA  
 TCCAGATAGCACACAGTTGTATTGGCTTCTCAAGGATGCTTTGCATGATACACACTTTGGAAGCAGATA  
 TGAACATGTGTTGGGTGCTCTCCTCTCTGTAGGAGGAAAAGGACTCAGAGAAGAGCTTTTAAAGCAGATG  
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 TCCTCCAAAAGAGTATGGAACGGGTACAGTCTTTTTTCTGAGAAATAAATGCCGCTTCTCTCAAACC  
 AAGTCTAGTGGCAAAAAGAACTAAATATTAAGTCATGTTCTTCTCAGTTCTAATGCTATGCCTCTGAAA  
 GTCACAATGGTGAATGCTGACCCCTGGGGGAAGAAATTAATGTCATGTTAAGGTTGGTGAAGATCTTC  
 GGCAAGATATGTTAGCTTACAGATGATAAAGATTATGGATAAGATCTGGCTTAAAGAGGGACTGGATCT  
 GAGGATGGTGATATTAGATGCCTGTCACTGGCCGAGATCGAGGCATGGTGGAGCTAGTTCTCTGCTTCA  
 GATACCCTCAGGAAAATCCAAGTGAATATGGTGAACAGGATCCTTTAAAGATAAACCACTTGCTGAGT  
 GGCTGAGGAAATACAATCCTTCTGAAGAAGAATATGAAAAGGCTTCTGAGAACTTTATCTACTCTGTGC  
 TGGGTGCTGTGTAGCCACCTATGTTTTAGGCATTTGTGATCGGCACAATGACAATAAATGCTTCAAGC  
 ACAGGACACATGTTCCACATTGACTTTGAAAAGTTTTTGGGCCATGCACAGATGTTTGGTAGCTTAAAA  
 GGGACCGAGCTCCTTTTGTGCTTACCTCTGACATGGCGTATGTCATTAATGGAGGTGAAAAGCCACCAT  
 TCGTTTTCCAGTTGTTTGTGGACCTCTGCTGTCAAGCCTACAACCTGATAAGAAAGCAAACAACTCTTT  
 CTTAACCTTCTCTCACTGATGATTCCTCAGGATTGCCAGAACTCACAAGATTCAGGATCTGAAATATG  
 TTAGAGATGCACTTCAGCCCCAACTACAGATGCTGAAGCTACTATTTTCTTTACTAGGCTGATTGAGTC  
 AAGTTTGGGAAGCATTGCCACAAAGTTAATTTCTTATTACATAACCTTGCTCAGTACGTTTTTCTGGC  
 CTCCTCTAATGATGAGCCCATCCTTTTCACTTCCACCGAAAACATACTCCTTTAGACAAGATGGCCGGA  
 TCAAGGAAGTCTCTGTTTTACATATCATAAGAAATACAACCCAGATAAACACTATATTTATGTGGTTG  
 AATTCTAAGAGAAGGACACCTTGAACCATCATTTGATTTCCGGACATTTGATGAATTTCAAGAACTTCA  
 AATAAGCTCAGTATTATTTTCTCTTTGGAAATTACCTGGCTTCTTAATAGGATGGTCTTGGAAAGAA  
 CACACATAAAAAGATGTTGCAGCCAAGAGGAAAAATTGAATTAACAGTTATTTACAGAGTTTGTGAATGC  
 ATCAACAGATGTAGCAGAGTGTGATCTTGTGTTGACTTTTTTCCACCCTTACTTCGTGATGAGAAAAGCT  
 GAAGGAATAGCTAGTCTGCAGGTGCAGTTCCCTTCCAGCCAACTCTGGGCCAAATAGGAGGAGCAGTGA  
 AGTTATCTGTTTCTTACCAGAAATGGCACCTCTTCTCATCATGGTGTGCACATCAAAGATCTTGTGACTGA  
 AGATGGGGCTGACCCAAATCCCTATGTCAAACATACCTGCTTCCAGATACCCACAAAACGTCAAACGT  
 AAAACCAAAATTTACAGTAAAACCTAGGAACCAACATTCAATGAAATGCTTGTATATAGTGGATACAGCA  
 AAGAAACTCTGAGGCAGAGAGAATCAACTGAGTGTACTCAGTGCAGAATCACTGCGGGGAGAAATTTCTT  
 CTTGGGTGGAATAACCTGCCACTGAAAGATTTCAACTTGAGCAAAGAGACAGTTAAGTGGTATCAGCTG  
 ACTGCGGCAACGTATCTA**TAA**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

<b>Restriction Sites:</b>	Ascl-MluI
<b>ACCN:</b>	NM_011083
<b>Insert Size:</b>	5061 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>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><a href="#">NM_011083.2</a></u> , <u><a href="#">NP_035213.2</a></u>
<b>RefSeq Size:</b>	8042 bp
<b>RefSeq ORF:</b>	5061 bp
<b>Locus ID:</b>	18704
<b>UniProt ID:</b>	<u><a href="#">Q61194</a></u>
<b>Cytogenetics:</b>	7 61.62 cM

**Gene Summary:**

Generates phosphatidylinositol 3-phosphate (PtdIns3P) and phosphatidylinositol 3,4-bisphosphate (PtdIns(3,4)P<sub>2</sub>) that act as second messengers. Has a role in several intracellular trafficking events. Functions in insulin signaling and secretion. Required for translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane and glucose uptake in response to insulin-mediated RHOQ activation. Regulates insulin secretion through two different mechanisms: involved in glucose-induced insulin secretion downstream of insulin receptor in a pathway that involves AKT1 activation and TBC1D4/AS160 phosphorylation, and participates in the late step of insulin granule exocytosis probably in insulin granule fusion. Synthesizes PtdIns3P in response to insulin signaling. Functions in clathrin-coated endocytic vesicle formation and distribution. Regulates dynamin-independent endocytosis, probably by recruiting EEA1 to internalizing vesicles. In neurosecretory cells synthesizes PtdIns3P on large dense core vesicles. Participates in calcium induced contraction of vascular smooth muscle by regulating myosin light chain (MLC) phosphorylation through a mechanism involving Rho kinase-dependent phosphorylation of the MLCP-regulatory subunit MYPT1. May play a role in the EGF signaling cascade. May be involved in mitosis and UV-induced damage response. Required for maintenance of normal renal structure and function by supporting normal podocyte function.[UniProtKB/Swiss-Prot Function]