

Product datasheet for **MR226580**

Pik3ca (NM_008839) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pik3ca (NM_008839) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Pik3ca
Synonyms:	6330412C24Rik; caPI3K; p110; p110alpha
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR226580 representing NM_008839 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCTCCACGACCATCTTCGGGTGAAGTGTGGGCATCCACTTGATGCCCCACGAATCCTAGTGAAT
GTTTACTCCCAATGGAATGATAGTGACTTTAGAATGCCTCCGTGAGGCCACACTCGTACCATCAAACA
TGAAGTGTTCAGAGAGGCCAGGAAATACCTCTCCATCAGCTTCTGCAAGACGAACTTCTTACATTTTC
GTAAGTGTACCCAAGAAGCAGAAAGGGAAGAATTTTTGATGAAACAAGACGACTTTGTGACCTTCGGC
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TGGTTTTGTTATTGGCATGCCAGTGTGTGAATTTGATATGGTTAAAGATCCAGAAGTCCAAGACTTTCGA
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AGGATGCCCAACTTGATGCTGATGGCCAAAGAAAGCCTATACTCTCAGCTGCCGATTGATAGCTTACCA
TGCCGTACATACTCAGGGCATCTCCACAGCCACACCCTACATGAATGGAGAGACATCTACGAAATCCCT
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ATTGATAAGATCTATGTTGCAACAGGTATCTACCATGGAGGAGAACCCTTATGTGACAAATGTGAACACTC
AAAGAGTACCTTGTCCAATCCTAGGTGGAATGAATGGCTGAATTATGATATACATTCCTGATCTTCC
TCGTGCTGCGGCCTTTGCCTTCAATCTGCTCTGTTAAAGGCCGAAAGGGTCTAAGGAGGAGCACTGT
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ATCTCTGGCCTGTACCGCATGGGTTAGAAGATCTGCTGAACCCTATTGGTGTACTGGGTCAAATCCAAA
TAAAGAACTCCATGCTTAGAGTTGGAGTTTATTGGTTCAGCAGTGTGGTGAAGTTCCAGACATGTCT



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GTGATCGAAGAACATGCCAATTGGTCCGTGTCCCAGAGAAGCTGGATTCACTACTCCCATACAGGACTGA
 GTAACAGACTAGCCAGAGACAATGAGTTAAGAGAAAATGACAAGGAACAGCTCCGAGCACTTTGCACCCG
 GGACCACTATCTGAAATCACTGAACAAGAGAAAGACTTCTATGGAGCCACAGACACTACTGCCTAACT
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 CGAGATATATGATGCAGCCATTGACCTGTTCACTCGGTCTCGCTGGTACTGCGTGGCAACCTTTATC
 TTGGGAATTGGAGACCGGCACAACAGCAACATCATGGTGAAGATGACGGACAGCTGTTTCATATAGATT
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 CAGGAGATGTGTTACAAGGCTTACCTAGCAATTCGGCAGCATGCCAATCTCTTCAACCTTTTTCAA
 TGATGCTTGGCTCTGGAATGCCAGAACTACAATCTTTTGGATGACATTGCATATATCCGAAAGACTCTAGC
 CTTGGACAAAACCTGAGCAAGAAGCTTTGGAATTTTACAAAGCAAAATGAATGATGCACATCATGGTGA
 TGGACGACAAAATGGATTGGATCTTCCACACCATCAAGCAGCATGCTTTGAAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR226580 representing NM_008839
 Red=Cloning site Green=Tags(s)

MPPRPSSGELWGIHLMPPRILVECLLPNGMIVTLECLREATLVTIKHELFRARKYPLHQLLQDETSIFY
 VSVTQEAEREFFDETRRLCDLRLFQPFVKVIEPVGNRKILNREIGFVIGMPVCEFDVMKDPEVQDFR
 RNILNVCKEAVDLRDLNSPHSRAMYVYPPNVESSPELPHKIYNKLDKGQIIVVIWVIVSPNNDKQKYTLK
 INHDCVPEQVIAEAIRKKTRSMLLSSEQLKLCVLEYQGYILKVCGCDEYFLEKYPLSQYKYIRSCIMLG
 RMPNMLMAKESLYSQLPIDSFTMPSYSRRISTATPYMNGETSTKSLWVINSALRIKILCATYVNVNIRD
 IDKIYVRTGIYHGGEPLCDNVNTQRVPCSNPRWNEWLNVDIYIPDLPRARLCLCSVKGGRKGAKEEHC
 PLAWGNINLFDYDTLVSGKMALNLWPVPHGLEDLLNPIGVTGSNPNKETPCLELEFDWFSSVVKFPDMS
 VIEEHANWVSREAGFSYHTGLSNRLARDNELRENDKEQLRALCTRDPLSEITEQEKDFLWSHRHYCVT
 IPEILPKLLL SVKWSNRDEVAQMYCLVKDWPIKPEQAMELLDCNYPDPMVRSFAVRCLEKYLDDKLSQ
 YLIQLVQLKYEQYLDNLLVRFLKALTNQRIGHFFFWHLKSEMHNKTVSQRFLGLESYCRACGMYLK
 HLNQRQVEAMEKLNLDILKQEKKDETKVQMKFLVEQMRQPDFMDALQGFLSPLNPAHQLGNLRLEECR
 IMSSAKRPLWLNWENPDIMSELLFQNNIIFKNGDDLQDMLTLQIIRIMENIWQNQGLDLRMLPYGCLS
 IGDCVGLIEVVRNSHTIMQIQCKGGLKALQFNSTLHQWLKDKNKGEIYDAAIDLFRSCAGYCVATFI
 LGIGDRHNSNIMVKDDGQLFHIDFGHFLDHKKKFGYKRERVPFVLTQDFLIVISKGAQEYTKTREFRF
 QEMCYKAYLAIRQHANLFINLFSMMLGSGMPELQSFDDIAYIRKTLALDKTEQEALEYFTKQMNDAHHGG
 WTTKMDWIFHTIKQHALN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mm9032_b02.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_008839

ORF Size: 3204 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 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](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

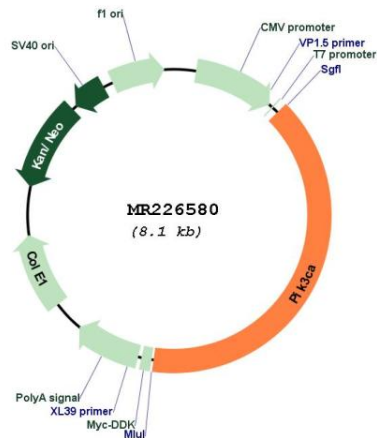
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- 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_008839.3](#)
RefSeq Size: 8917 bp
RefSeq ORF: 3207 bp
Locus ID: 18706
UniProt ID: [P42337](#)
Cytogenetics: 3 15.7 cM
MW: 124.9 kDa

Gene Summary: Phosphoinositide-3-kinase (PI3K) that phosphorylates PtdIns (Phosphatidylinositol), PtdIns4P (Phosphatidylinositol 4-phosphate) and PtdIns(4,5)P2 (Phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3). PIP3 plays a key role by recruiting PH domain-containing proteins to the membrane, including AKT1 and PDK1, activating signaling cascades involved in cell growth, survival, proliferation, motility and morphology. Participates in cellular signaling in response to various growth factors. Involved in the activation of AKT1 upon stimulation by receptor tyrosine kinases ligands such as EGF, insulin, IGF1, VEGFA and PDGF. Involved in signaling via insulin-receptor substrate (IRS) proteins. Essential in endothelial cell migration during vascular development through VEGFA signaling, possibly by regulating RhoA activity. Required for lymphatic vasculature development, possibly by binding to RAS and by activation by EGF and FGF2, but not by PDGF. Regulates invadopodia formation through the PDK1-AKT1 pathway. Participates in cardiomyogenesis in embryonic stem cells through a AKT1 pathway. Participates in vasculogenesis in embryonic stem cells through PDK1 and protein kinase C pathway. Also has serine-protein kinase activity: phosphorylates PIK3R1 (p85alpha regulatory subunit), EIF4EBP1 and HRAS. Plays a role in the positive regulation of phagocytosis and pinocytosis (PubMed:19604150). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR226580