

## Product datasheet for **RC209834**

### PI 3 Kinase p85 beta (PIK3R2) (NM\_005027) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PI 3 Kinase p85 beta (PIK3R2) (NM_005027) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PI 3 Kinase p85 beta
Synonyms:	MPPH; MPPH1; p85; p85-BETA; P85B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>RC209834 representing NM\_005027  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGGCGGGCCCTGAGGGCTTCCAGTACCGCGCTCTGTACCGTTCCGCCGGGAGCGCCGGAGGACCTGG  
AGCTGCTGCCCGCGACGTGCTGGTAGTGAGCCGGCGGCCTTGCAGGCGCTGGGCGTGGCCGAGGGTGG  
CGAGCGCTGCCACAGAGCGTGGCTGGATGCCCGGCCTCAACGAGCGCACACGGCAGCGAGGTGACTTC  
CCTGGCACCTATGTGGAGTTCCTGGGGCCCGTGGCCCTGGCCCGCCCGGCCCTCGCCACGGGGCCCC  
GCCACTGCCCGCAGGCCCGTGTATGGGGCCCTGAGCCAGGCCTCACACTCCCGACTTGCCCGAGCA  
GTTCTCCACCTGATGTGGTCCCTCTTCTGGTGAAGCTTGTGGAGGCCATTGAAAGGACAGGGCTG  
GACAGCGAATCTCACTACCGCCCGAGCTGCCCGACCGCGTACAGACTGGTCCCTGAGCGACGTGGATC  
AGTGGGACACGGCAGCCCTGGCTGACGGCATTAAAGAGCTTCTGTGCTGACTGCCCGCGCCGCTCGTGAC  
CCCCGAGGCCCTCGGCCGAGGCGCGCCGGGCCCTGCGGGAGGCCGCGGGGCCCGTGGGGCCGGCGCTGGAG  
CCACCGACGCTGCCGCTGCACCGCGCGCTACGCTGCGCTTCTGCTCCAGCACCTGGGCGCGCTGGCCC  
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GCCGCGCCCGCCGTCTCGCCCGCCAGGGGGCGCTCCCGACGGGAGTGAGCCAGCCCTGACTTCCCG  
GCGCTGCTGGTGGAGAAGCTGCTTCAAGAACACTTGAAGAGCAGGAGGTTGCGCCCCAGCGCTGCCGC  
CTAAACCCCCAAGGCAAAGCCGGCCCCACAGTCTGGCCAATGGAGGGAGCCACCCTCCCTGCAGGA  
TGCTGAGTGGTACTGGGGGACATTTCAAGGGAGGAGTGAACGAGAACTCCGGGACACTCCCGATGGC  
ACCTTCTAGTCCGAGATGCTTCTAGCAAGATCCAGGGCGAGTACACGCTGACCCTCAGGAAAGCGGGA  
ACAATAAGCTGATCAAGTCTTCCACCGAGATGGGCACTATGGCTTCTCAGAGCCACTCACCTTCTGCTC  
CGTTGTGGACCTCATCAATCACTACCGCCACGAGTCTTGGCCCACTACAATGCCAAGTGGACACACGG  
CTCCTCTACCCTGTGTCAAATACCAGCAGGACCAGATTGTCAAGGAGGACAGCGTGGAGGCAGTGGGCG  
CCCAGCTTAAGTCTATCACCAGCAGTACCAGGACAAGAGCCGCGAGTATGACCAGCTTTATGAAGAGTA  
CACACGGACCTCCAGGAGCTGCAGATGAAGCGTACTGCAATTGAGGCCTTCAATGAGACTATCAAGATC  
TTTGAAGAGCAGGGCCAGACTCAAGAGAAATGCAGCAAGGAATACCTGGAGCGCTTCCGGCGTGAGGGCA  
ACGAGAAAGAGATGCAAAGGATCCTGCTGAACTCCGAGCGGCTCAAGTCCCGCATTGCCGAGATCCATGA  
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AACAGCCTCAAGCCGGACCTCATGCAGCTGCGCAAGATCCGAGACCAGTACCTCGTGTGGCTCACCCAGA  
AAGGCGCCCGGCAGAAGAAAATCAACGAGTGGCTGGGGATTAATAATGAGACTGAGGACCAGTACGCACT  
CATGGAGGACGAGGACGATCTCCCGCACACGAGGAACGCACTTGGTACGTGGGCAAGATCAACCGCACG  
CAGGCAGAGGAGATGCTGAGTGGCAAGCGGGATGGCACCTTCTCATCCGCGAGAGCAGCCAGCGGGCT  
GCTACGCCTGCTCCGTGGTAGTGGACGGCGACCAAGCACTGCGTCATCTACCGCACGGCCACCGGCTT  
CGGCTTCGCGGAGCCCTACAACCTGTACGGTCTGCTGAAGGAGCTGGTGTGCTGACTACCAGCACGCCTCG  
CTGGTGCAGCACAACGACGCGCTACCGTACCCCTGGCGCACCCAGTGGCGCCCCGGGCCCGGCCCGC  
CGCTGCCGCCCGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC209834 representing NM\_005027  
 Red=Cloning site Green=Tags(s)

MAGPEGFQYRAL YPFRRERPEDLELLPGDVLVVSRAALQALGVAEGGERCPQSVGWMPGLNERTRQRGDF  
 PGTYVEFLGPVALARPGPRPRGPRPLPARPRDGAPEPGLTLPDLPEQFSPPDVAPLLVKLVEAIERTGL  
 DSESHYRPELPAPRTDWSLSDVDQWDTAALADGIKSFLALPAPLVTPEASAEARRALREAAQVPGPALE  
 PPTLPLHRALTLRFLQLHLGRVARRAPALGPAVRALGATFGPLLRAPPPSPPPPGAPDGPSPDFP  
 ALLVEKLLQEHLEEQEVAPPALPPKPPKAKPAPTVLANGGSPSLQDAEWYWGDISREEVNEKLRDTPDG  
 TFLVRDASSKIQGEYTLTLRKGGNNKLIKVFHRDGHYGFSEPLTFCSVVDLINHYRHESLAQYNAKLDTR  
 LLYPVSKYQQDQIVKEDSVEAVGAQLKVYHQYQDKSREYDQLYEYTRTSQELQMKRTAIEAFNETIKI  
 FEEQGQTQEKCSKEYLERFRREGNEKEMQRILLNSERLKSRIAEIHESRTKLEQQLRQAASDNREIDKRM  
 NSLKPDLMQLRKIRDQYLWLTQKGARQKINEWLGKINETEDQYALMEDEDDLPHHEERTWYVVKINRT  
 QAEEMLSGKRDGTFLIRESSQRGCYACSVVVDGDTKHCVIYRTATGFGFAEPYNLYGSLKELVLHYQHAS  
 LVQHNDALTVTLAHPVRAPGPGPPPAAR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM\_005027

ORF Size: 2184 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](#)

**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\\_005027.3](#)

**RefSeq Size:** 3953 bp

**RefSeq ORF:** 2187 bp

**Locus ID:** 5296

**UniProt ID:** [O00459](#)

**Cytogenetics:** 19p13.11

**Domains:** RhoGAP, SH2, SH3

**Protein Families:** Druggable Genome

**Protein Pathways:**

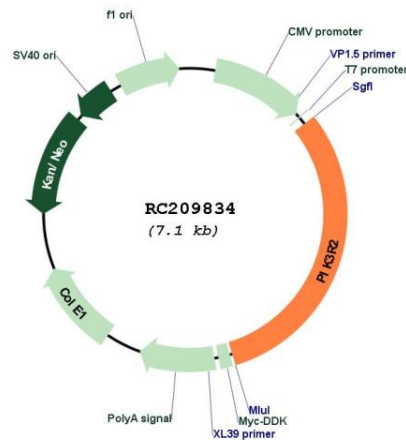
Acute myeloid leukemia, Apoptosis, B cell receptor signaling pathway, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Glioma, Insulin signaling pathway, Jak-STAT signaling pathway, Leukocyte transendothelial migration, Melanoma, mTOR signaling pathway, Natural killer cell mediated cytotoxicity, Neurotrophin signaling pathway, Non-small cell lung cancer, Pancreatic cancer, Pathways in cancer, Phosphatidylinositol signaling system, Progesterone-mediated oocyte maturation, Prostate cancer, Regulation of actin cytoskeleton, Renal cell carcinoma, Small cell lung cancer, T cell receptor signaling pathway, Toll-like receptor signaling pathway, Type II diabetes mellitus, VEGF signaling pathway

**MW:**

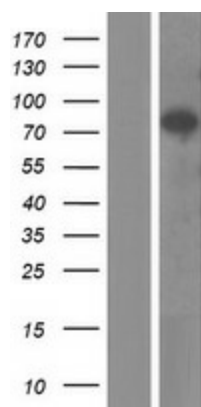
81.4 kDa

**Gene Summary:**

Phosphatidylinositol 3-kinase (PI3K) is a lipid kinase that phosphorylates phosphatidylinositol and similar compounds, creating second messengers important in growth signaling pathways. PI3K functions as a heterodimer of a regulatory and a catalytic subunit. The protein encoded by this gene is a regulatory component of PI3K. Three transcript variants, one protein coding and the other two non-protein coding, have been found for this gene. [provided by RefSeq, Apr 2019]

**Product images:**


Circular map for RC209834



Western blot validation of overexpression lysate (Cat# [LY417589]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209834 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).