

## Product datasheet for **RC215433**

### PIK3CB (NM\_006219) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PIK3CB (NM_006219) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PIK3CB
Synonyms:	P110BETA; PI3K; PI3KBETA; PIK3C1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC215433 representing NM_006219 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGCTTCAGTTTCATAATGCCTCCTGCTATGGCAGACATCCTTGACATCTGGGCGGTGGATTCACAGA  
TAGCATCTGATGGCTCCATACCTGTGGATTTCTTTTGCCACTGGGATTTATATCCAGTTGGAGGTACC  
TCGGGAAGCTACCATTTCTTATATTAAGCAGATGTTATGGAAGCAAGTTCACAATTACCCAATGTTCAAC  
CTCCTTATGGATATTGACTCCTATATGTTTGCATGTGTGAATCAGACTGCTGTATATGAGGAGCTTGAAG  
ATGAAACACGAAGACTCTGTGATGTCAGACCTTTTCTCCAGTTCTCAAATTAGTGACAAGAAGTTGTGA  
CCCAGGGGAAAAATTAGACTCAAAAATTGGAGTCTTATAGGAAAAGGTCTGCATGAATTTGATTCCTTG  
AAGGATCCTGAAGTAAATGAATTTCAAGAAAAATGCGCAAATTCAGCGAGGAAAAATCCTGTCACTTG  
TGGGATTGCTTGGATGGACTGGCTAAAACAAACATATCCACCAGAGCATGAACCATCCATCCCTGAAAA  
CTTAGAAGATAAACTTTATGGGGAAAGCTCATCGTAGCTGTTCATTTTGAAAACGCCAGGACGTGTTT  
AGCTTTCAAGTGTCTCCTAATATGAATCCTATCAAAGTAAATGAATTGGCAATCCAAAACGTTTGACTA  
TTCATGGGAAGGAAGATGAAGTTAGCCCCTATGATTATGTGTTGCAAGTCAGCGGGAGAGTAGAATATGT  
TTTTGGTGATCATCCACTAATTCAGTTCCAGTATATCCGGAACGTGTGATGAACAGAGCCCTGCCCAT  
TTTATACTTGGAATGCTCAAGATCAAGAAAAATGATGAACAAGAAATGATTGCCATAGAGGCTGCCA  
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GGAAAAATAACAACCCCTTTCCAAATTGTCTTGGTTAAGGGAAAAATAACTTAACACAGAGGAAACTGTAAAA  
GTTTCATGTGAGGCTGGTCTTTTTCATGGTACTGAGCTCCTGTGTAAAACCATCGTAAGCTCAGAGGTAT  
CAGGGAAAAATGATCATATTTGGAATGAACCACTGGAATTTGATTAATATTTGTGACTTACCAAGAAT  
GGCTCGATTATGTTTTGCTGTTTATGCAGTTTTGGATAAAGTAAAAACGAAGAAATCAACGAAAACATT  
AATCCCTCTAAATATCAGACCATCAGGAAAGCTGGAAAAGTGCATTATCCTGTAGCGTGGGTAATACGA  
TGGTTTTTGACTTTAAAGGACAATTGAGAACTGGAGACATAATATTACACAGCTGGTCTTCAATTTCTGA  
TGAACCGAAGAAATGTTGAATCCAATGGGAACGTTCAAAACAAATCCATATACTGAAAAATGCAACAGCT



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TTGCATGTAAATTTCCAGAGAATAAAAAACAACCTTATTATTACCCTCCCTTCGATAAGATTATTGAAA  
 AGGCAGCTGAGATTGCAAGCAGTGATAGTGCTAATGTGTCAAGTCGAGGTGAAAAAAGTTTCTTCTCTGT  
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 TTGCGACAAGACTGCCGAGAGATTTTCCCAACAATCACTGCCAAAATTACTGCTGTCAATCAAGTGGAAATA  
 AACTTGAGGATGTTGCTCAGCTTCAGGCCTGCTTCAGATTTGGCCTAACTGCCCCCGGGAGGCCCT  
 AGAGCTTCTGGATTTCAACTATCCAGACCAGTACGTTTCGAGAATATGCTGTAGGCTGCCTGCCACAGATG  
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 TTTTATCTTACCTATGATTTTATCCATGTCATTCAACAAGGAAAAACAGGAAATACAGAAAAGTTTGGC  
 CGGTTCCGCCAGTGTGTGAGGATGCATATCTGATTTTACGACGGCATGGGAATCTTTCATCACTCTCT  
 TTGCGCTGATGTTGACTGCAGGCTTCTGAACTCACATCAGTCAAAGATATACAGATATCTAAGGACTC  
 TCTTGCATTAGGGAAGAGTGAAGAAGAAGCACTCAACAGTTTTAAGCAAAAATTTGATGAGGCGCTCAGG  
 GAAAGCTGGACTACTAAAGTGAAGTGGATGGCCACACAGTTCGGAAAGACTACAGATCT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC215433 representing NM\_006219  
 Red=Cloning site Green=Tags(s)

MCFSFIMPAMADILDIWAVDSQIASDGSIPVDFLLPTGIYIQLEVPREATISYIKQMLWKQVHNYPMFN  
 LLMDIDSYMFACVNQTAVYEELEDETRRLCDVRPFLPVLKLVTRSCDPGEKLDISKIGVLIGKGLHEFDSL  
 KDPEVNEFRMRKFSEEKILSLVGLSMDWLKQTYPEHEPSIPENLEDKLYGGKLIIVAVHFENCQDVF  
 SFQVSPNMNPIKVNELAIQKRLTIHGKEDEVSPDYVLQVSGRVEYVFGDHLIQFYIRNCVMNRALPH  
 FILVECKIKKMYEQEMIAIEAAINRNSNLPLPLPPKTRII SHVWENNPFQIVLVKGNKLNTEETVK  
 VHVRAGLFHGTELLCKTIVSSEVSGKNDHIWNEPLEFDINICDLPRMARLCAVAVLDKVKTKKSTKTI  
 NPSKYQTIKAGKVHYPVAWNTMVDFDKQLRTGDIILHSWSSFPDELEMLNPMGTVQTPYENATA  
 LHVKFPENKQPYPPFDKIEKAAEIASSDSANVSSRGGKFLPVLKEILDRDPLSQLCENEMDLIWT  
 LRQDCREIFPQSLPKLLLSIKWNKLEDVAQLQALLQIWPKLPPREALLELDFNYPDQYVREYAVGCLRQM  
 SDEELSQYLLQLVQVLKYEPFLDCALSRFLLERALGNRRIGQFLFWHLRSEVHIPAVSVQFVILEAYCR  
 GSVGHMVKLSKQVEALNKLKTLNSLIKLNKLNRAKKEAMHTCLKQSAYREALSDLQSPNPNPCVILSE  
 LYVEKCKYMDSKMKPLWLVYNNKVFGEDEVGVIKNGDDLQDMLTLQMLRLMDLLWKEAGLDRMLPYG  
 CLATGDRSGLIEVVSTSETIADIQLNSSNVAFAAFNKDALLNWLKEYNSGDDLDRAIIEEFTLSCAGYCV  
 ASYVLGIGDRHSDNIMVKKTGQLFHIDFGHILGNFKSKFGIKRERVPFILTDFIHVIQQKGTGNTKFG  
 RFRQCCEDAYLILRRHGNLFIITLFAFMLTAGLPELTSVKDIQYLKDSLALGKSEEEALKQFKQKQFDEALR  
 ESWTTKVNWMAHTVRKDYRS

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mg3344\\_e01.zip](https://cdn.origene.com/chromatograms/mg3344_e01.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_006219

**ORF Size:** 3210 bp

**OTI Disclaimer:** 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\\_006219.3](#)

**RefSeq Size:** 3213 bp

**RefSeq ORF:** 3213 bp

**Locus ID:** 5291

**UniProt ID:** [P42338](#)

**Cytogenetics:** 3q22.3  
**Domains:** PI3K\_rbd, PI3\_PI4\_kinase, PI3Ka, PI3K\_C2, PI3K\_p85B

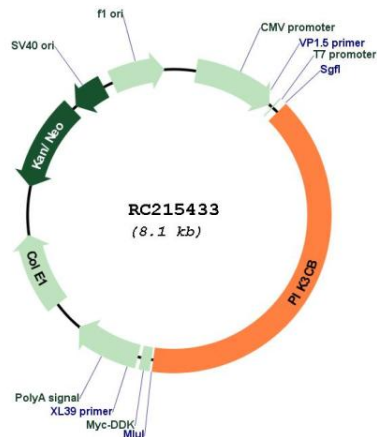
**Protein Families:** Druggable Genome

**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, Inositol phosphate metabolism, 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:** 122.6 kDa

**Gene Summary:** This gene encodes an isoform of the catalytic subunit of phosphoinositide 3-kinase (PI3K). These kinases are important in signaling pathways involving receptors on the outer membrane of eukaryotic cells and are named for their catalytic subunit. The encoded protein is the catalytic subunit for PI3Kbeta (PI3KB). PI3KB has been shown to be part of the activation pathway in neutrophils which have bound immune complexes at sites of injury or infection. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2011]

**Product images:**



Circular map for RC215433