

Product datasheet for **MG223909**

Pik3cb (NM_029094) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pik3cb (NM_029094) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Pik3cb
Synonyms:	1110001J02Rik; A1447572; p110beta
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG223909 representing NM_029094 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCCTCTGCTATGGCAGACAACCTTGACATCTGGGCAGTGGACTCACAGATTGCATCCGATGGCGCCA
TATCCGTCGATTTCTTCTGCCACCGGATTTATATCCAGTTGGAAGTACCTCGGAAGCTACCATTTCT
TTATATTAACAGATGTTATGGAAGCAAGTTCACAACCTACCCGATGTTTAACTCCTCATGGACATTGAC
TCGTATATGTTTGCATGTGTGAATCAAAGTCTGTATATGAGGAAGTGGAAAGACGAAACACGAAGACTTT
GTGATGTCAGACCTTTTCTCCAGTTCTCAAAGTACTGACTAGAAGCTGTGACCCCGCAGAAAAATTGGA
CTCAAAAATTGGGTTCTTATAGGAAAAGTCTTCATGAGTTTGTGACCTGAAGGATCCCGAAGTGAAT
GAATTTAGAAGAAAAATGCGCAAATTCAGTGAGGCCAAGATTCAGTCTCTGGTAGGGTTGTCTTGGATCG
ACTGGCTAAAGCACACGTATCCGCCTGAGCAGCAGCCGTCCTGCTGGAGAACTTGAAGATAAACTTTA
TGGAGGAAAGCTGGTGTGGCTGTGCACTTTGAAAATAGCCAGGATGATTTAGTTTTCAAGTGTCTCCC
AATTTGAATCCTATAAAAATAAATGAATTGGCAATCCAGAAACGCCTCACTATTCGTGGAAAGGAAGATG
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AATTCAGTTCAGTACATCCGGAATTGTGTGATGAATAGAACCCTGCCCACTTCATCCTGTGGAATGT
TGTAAGATCAAGAAAATGTATGAACAAGAAATGATTGCCATAGAGGCTGCCATCAACCGAAACTCATCCA
ACCTTCTCTCCCTTACCACCAAAGAAAACGCGAGTTATTTCTCATATCTGGGACAACAACAACCTTT
CCAAATTACCTTGGTTAAAGGAAATAAGCTTAATACAGAAGAACTGTGAAAGTTCATGTCCGAGCTGGG
CTTTTTACGGAACCGAGCTCCTGTGTAACCCTCGTAAGCTCAGAGATATCAGGAAAGAACGACCATA
TTTGAATGAACAACCTGGAATTTGATATTAATTTGTGACTTACCAAGAATGGCTCGATTATGTTTTGC
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GACAGCTGAGGTCTGGAGACGTCAATTGCATAGCTGGTCTTCGTTTCTGATGAGCTGGAAGAAATGCT
GAATCCATGGGACTGTGCAGACGAACCCATATGCTGAGAACGCCACCGCTTGCATTACGTTCCCA



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GAGAATAAGAAGCAGCCGTGTTATTATCCCCCTTCGATAAGATCATTGAGAAGGCAGCTGAGCTTGCCA
 GCGGAGACAGTGCTAATGTGTCAAGTCGTGGTGGAAAAAATTTCTTGCTGTGCTGAAAGAAATCTTGGA
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 TTGGAGTGATCTTTAAAAATGGTACGATTTGCGGCAGGACATGCTGACGCTGCAGATGTTGCCCTGAT
 GGATCTGCTTTGAAAAGAAGCTGGCTTGACCTGCGGATGCTCCCCTATGGCTGCTTAGCAACAGGAGAT
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 CAGGGCTGCCTGAGCTCACATCGGTCAAAGATATACAGTATCTTAAGGACTCGCTTAGGGAAGAG
 CGAGGAGGAAGCACTGAAGCAGTTCAAGCAGAAGTTTACGAGGCGCCTCAGGGAAAGCTGGACTACTAAA
 GTGAACTGGATGGCTCACACAGTACGGAAGACTACAGGTCC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG223909 representing NM_029094
 Red=Cloning site Green=Tags(s)

MPPAMADNLDIWAVDSDQIASDGAISVDFLLPTGIYIQLEVPREATISYIKQLWKQVHNYPMFNLLMDID
 SYMFACVNQTAVYEELEDETRRLCDVRPFLPVLKLVTRSCDPAEKLDSKIGVLIGKGLHEFDALKDPEVN
 EFRRMRKFSEAKIQSLVGLSWIDWLKHTYPEHEPSVLENLEDKLYGGKLVAVHFENSQDVSFQVSP
 NLNPIKINELAIQKRLTIRGKEDEASPCDYVLQVSGRVEYVFGDHLIQFYIRNCVMNRTLPHFILVEC
 CKIKKMYEQEMIAIEAAINRNSSNLPLPLPPKTRVISHIWDNNPFQITLVKGNLNTETVKVHVRAG
 LFHGTELLCKTVVSSEISGKNDHIWNEQLEFDINICDLPRMARLCAVYAVLDKVKTKKSTKTINPSKYQ
 TIRKAGKVHYPVAVWNTMVFDFKQLRSGDVILHSWSSFPDELEEMLNPMGTVQTNPYAENATALHITFP
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 ENFPQSLPKLLL SIKWNKLEDVAQLQALLQIWPKLPPREALELLDFNYPDQYVREYAVGCLRQMSDEELS
 QYLLQLVQLKYEPFLDCALSRFLLERALDNRRIGQFLFWHLRSEVHTPAVSVQFVILEAYCRGSGVGHM
 KVL SKQVEALNKLKTLNSLIKLNKLSRAKGEAMHTCLKQSAYREALSDLQSPNPNPCVILSELVYEKC
 KYMDSKMKPLWL VYSSRAFGEDSVGVIFKNGDDLQDMLTLQMLRLMDLLWKEAGLDRMLPYGCLATGD
 RSLGIEVVSTSETIADIQLNSSNVAATAAFNKDALLNWLKEYNSGDDLDRAIIEEFTLSCAGYCVASYVLG
 IGDRHSDNIMVKKTGQLFHIDFGHILGNFKSKFGIKRERVPFILTDFIHVIQQGKTGNTEKFGFRQCC
 EDAYLILRRHGNTLITLFAFMLTAGLPELTSVKDIQYLKDSLALGKSEEEALKQFKQKQFDEALRESWTTK
 VNWMAHTVRKDYRS

TRTRPLE – GFP Tag – V

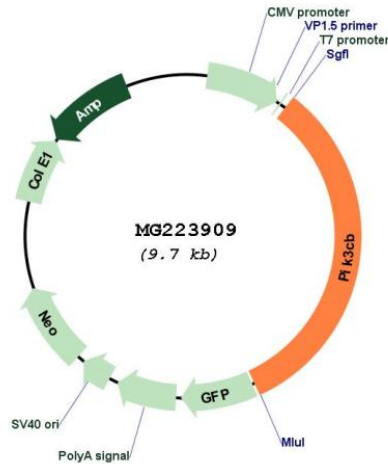
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_029094

ORF Size: 3192 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:	<ol style="list-style-type: none">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:	<u>NM_029094.3, NP_083370.2</u>
RefSeq Size:	4854 bp
RefSeq ORF:	3195 bp
Locus ID:	74769
UniProt ID:	<u>Q8BTI9</u>
Cytogenetics:	9 E3.3
Gene Summary:	<p>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. Involved in the activation of AKT1 upon stimulation by G-protein coupled receptors (GPCRs) ligands such as CXCL12, sphingosine 1-phosphate, and lysophosphatidic acid. May also act downstream receptor tyrosine kinases. Required in different signaling pathways for stable platelet adhesion and aggregation. Plays a role in platelet activation signaling triggered by GPCRs, alpha-IIb/beta-3 integrins (ITGA2B/ ITGB3) and ITAM (immunoreceptor tyrosine-based activation motif)-bearing receptors such as GP6. Regulates the strength of adhesion of ITGA2B/ ITGB3 activated receptors necessary for the cellular transmission of contractile forces. Required for platelet aggregation induced by F2 (thrombin) and thromboxane A₂ (TXA₂). Has a role in cell survival. May have a role in cell migration. Involved in the early stage of autophagosome formation. Modulates the intracellular level of PtdIns3P (Phosphatidylinositol 3-phosphate) and activates PIK3C3 kinase activity. May act as a scaffold, independently of its lipid kinase activity to positively regulate autophagy. May have a role in insulin signaling as scaffolding protein in which the lipid kinase activity is not required. May have a kinase-independent function in regulating cell proliferation and in clathrin-mediated endocytosis. Mediator of oncogenic signal in cell lines lacking PTEN. The lipid kinase activity is necessary for its role in oncogenic transformation. Required for the growth of ERBB2 and RAS driven tumors.[UniProtKB/Swiss-Prot Function]</p>