

Product datasheet for **MG211638**

Pik3cg (NM_020272) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pik3cg (NM_020272) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Pik3cg
Synonyms:	5830428L06Rik; p110gamma; PI3Kgamma
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG211638 representing NM_020272 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGCTGGAGAACTATGAACAACCGGTGGTTCTAAGAGAGGACAACCTCCGCCGGCGCCGGAGGATGA
AGCCACGCAGCGCAGCAGGCAGCCTGTCTTCCATGGAGCTCATCCCCATTGAGTTCGACTGCCACCAG
CCAGCGCATCAGCAAGACTCCAGAAACAGCGCTGCTGCATGTGGCTGGCCATGGCAATGTGGAACAGATG
AAAGCTCAGGTGTGGCTGCGCGCACTGGAGACCAGTGTGGCTGCGGAGTTCTACCACCGATTGGGCCGG
ACCAATTCCTCCTGCTCTACCAGAAGAAAGGACAATGGTATGAGATCTATGACAGGTACCAAGTGGTGCA
GACCCTAGACTGCCTGCATTACTGGAAGTTGATGCACAAGAGCCCTGGCCAGATCCACGTGTACAGCGA
CACGTACCTTCTGAGGAGACCTTGGCTTCCAGAAGCAGCTCACCTCCCTGATTGGCTATGACGTCACTG
ACATCAGCAATGTGCACGATGATGAGCTAGAGTCACTCGCCCGCTGTGGTTACGCCCCGCATGGCTGA
AGTGGCTGGCCGGATGCCAAACTCTATGCTATGCACCCTTGGGTAACGTCCAAACCTCTCCAGACTAC
CTGTCAAAAAGATTGCCAAACTGCATCTTCATCGTCATCCACCGCGTACCACCAGCCAAACCATCA
AGGTCTCCGCAGATGATACTCCTGGTACCATCTCCAGAGCTTCTCACCAAGATGGCCAAGAAGAAGTC
CCTAATGAATATCTCAGAAAGTCAAAGTGAGCAGGATTTGTATTGCGGGTTTGTGGCCCGATGAGTAC
CTGGTGGGTGAAACACCCCTCAAAAATTTCCAGTGGGTGAGGAGTCCCAAGAACGGAGATGAAATAC
ACCTGGTGTCTCGACACCGCTCCAGACCCAGCCCTTGATGAGGTGAGGAAGGAAGAATGGCCGCTGGTGGA
TGA CTGCACTGGAGTCAACCGCTACCACGAGCAGCTGACCATCCATGGCAAGACCACGAGAGTGTGTTT
ACAGTGTCTTTGTGGACTGCGACCGAAAGTTCAGGGTCAAGATCAGAGGCATTGATATCCCTGTCTGCTGC
CTCGGAACACCGACCTCACTGTGTTTGTGGAAGCGAACATCCAGCACGGGCAACAAGTCTCTGCCAAAG
GAGAACCAGCCCTAAGCCCTTCGAGAAGAGGTA CTCTGGAATGTGTGGCTGGAGTTGGCATCAAATC
AAAGACTTGCCAAAGGGGCTCTATTGAACCTACAGATCTACTGTGCAAAACCCATCACTGTCCAGCA
AGGCTTCTGCAGAGACTCCAGGCTCCGAGTCCAAGGGCAAAGCCAGCTTCTCTATTACGTGAACCTTGT
GTTAATAGACCACCGTTTCTCCTCCGCCAGGGGACTATGTGCTCCACATGTGGCAGATATCTGGCAAG



[View online >](#)

GCAGAGGAGCAGGGCAGCTTCAATGCTGACAAGCTCACATCCGCAACCAATCCTGACAAGGAGAACTCAA
 TGTCCATTTCCATCCTGCTGGACAATTACTGTACCCCATAGCTTTGCCTAAGCACCGGCCACCCCTGA
 CCCAGAGGGAGACAGGGTTGGGCTGAAATGCCAATCAGCTTCGAAAGCAATTGGAGGCGATCATAGCC
 ACAGATCCACTTAACCCCTCACAGCAGAGGACAAAGAATTGCTCTGGCATTTCGATATGAAAGCCTGA
 AGCATCCGAAGGCTTACCCTAAGCTATTCAGCTCAGTGAATGGGGCAGCAAGAAATTGTTGCCAAAAC
 GTACCAGCTGTTAGCCAGAAGGGAGATCGGGATCAAAGTGCTTTGGACGTTGGCTTAACCATGACAGCTC
 CTGGACTGCAACTTTTCAGACGAGAATGTCGGGCCATTGCAGTTCAGAAACTGGAGACTAGAGGACG
 ATGACGTTTTACATTACCTTCTCCAGCTGGTACAGGCTGTGAAATTTGAACCGTACCACGACAGTGCCT
 GGCCAGATTCTGCTGAAGCGTGGCTTGAAGAACAAAAGAATCGTCACTTCTTGTCTGGTTCTGCGA
 AGTGAGATCGCACAGTCCAGACACTATCAGCAGAGGTTGCTGTGATCCTGGAGGCGTACCTGCGAGGCT
 GTGGCACAGCCATGTTGCAGGACTTCACACAGCAGGTCCATGTGATTGAGATGTTACAGAAAGTCACCAT
 TGATATTAATCGCTCTCGGCAGAGAAGTATGACGTGAGTCCCAAGTTATTTACAGCTTAAGCAAAG
 CTTGAAAGCCTTCAGAACTCCAATCTCCCCGAGAGCTTTAGAGTTCCTATGATCCTGGACTAAAAGCCG
 GTACCCTGGTGATCGAGAAATGCAAAGTATGGCCTCCAAGAAGAAGCCCTGTGGCTTGAGTTAAGTG
 TGCTGATCCACAGTCTATCCAACGAAACCATTGGAATCATCTTTAAACATGGTGATGATCTGCGCCAA
 GACATGTTGATCTTGAGATTCTACGCATCATGGAGTCCATTTGGGAGACTGAATCTCTGGACCTGTGCC
 TTCTGCCTTACGGTTGCATCTCAACTGGTGACAAAATAGGAATGATCGAGATTGTAAGGATGCCACAAC
 GATCGCTCAAATTCAGCAAAGCACAGTGGGTAACACGGGGCATTCAAAGATGAAGTCTGAATCACTGG
 CTCAAGGAAAAATGTCCTATTGAAGAAAAGTTTTCAGGCCGAGTGGAAAGGTTTGTCTTACTCCTGTGCA
 GCTACTGTGTGGCCACATTTGTTCTTGGGATCGGTGACAGGCACAACGACAACATTATGATCTCAGAGAC
 AGGAAACCTATTTCATATAGACTTCGGACACATTCTTGGGAATACAAGAGTTTCTGGGCATCAATAAA
 GAGAGAGTGCCCTTCGTCTAACCCAGACTTCTTGTGTTGATGGGATCTTCTGGAAAAAGACAAGTC
 CACACTCCAGAAATCCAGGATGTCTGTGTTAGAGCTTACCTAGCTCTTCGCCATCACACAAACCTGTT
 GATCATCTTGTCTCCATGATGCTGATGACAGGAATGCCCCAGCTGACAAGCAAAGAGGACATTGAATAT
 ATCCGGGATGCCCTACCGTGGGAAAAAGCGAGGAGGACGCTAAGAAATATTTCTTGTGATCAGATCGAAG
 TCTGCAGAGACAAAGGATGGACTGTGCAGTTTAACTGGTCTACATCTTGTCTTGGCATCAAACAAGG
 AGAAAAGCACTCCGCT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG211638 representing NM_020272
 Red=Cloning site Green=Tags(s)

MELENYEQPVVLRDNLRRRRMKPRSAAGSLSSMELIPIEFVLPSTQRISKTPETALLHVAGHGNVEQM
 KAQVWLRALETSVAAEFYHRLGPDQFLLLYQKKGQWYIEYDRYQVVQTLDCLEHYWKLMMHSPGQIHVVQR
 HVPSEETLAFQKQLTSLIGYDVTDISNVHDELEFTRRRLVTPRMAEVAGRDAKLAMHPVWTSKPLPDY
 LSKKIANNCFIVIHRTTSQTIKVSADDTPTGILQSFFTKMAKKSLMNISESQSEQDFVLRVCGRDEY
 LVGETPLKNFQWVRQCLKNGDEIHLVLDTPDPALDEVRKEEWPLVDDCTGVTGYHEQLTIHGKDHEVSVF
 TVSLWDCDRKFRVKIRGIDIPVLPNTDLTVFVEANIQHQQVLCQRRTPSPKPF AEEVLWNVWLEFGIKI
 KDLPKGALLNLQIYCKTPSLSSKASAETPGSESKGAQLLYVNLILLIDHRFLLRHGDYVLLHMWQISGK
 AEEQGSFNADKLTSAATNPKENSMSISILLDNYCHPIALPKHRPTDPEGDRVRAEMPQLRKQLEAIIA
 TDPLNPLTAEDKELLWHFRYESLKHPKAYPKLFSSVKWGQQEIVAKTYQLLARREIWDQSALDVGLTMQL
 LDCNFSDENVRVIAVQKLESLEDDDLHYLLQLVQAVKFEPYHDSALARFLLKRGLRNKRIGHFLFWFLR
 SEIAQSRHYQRFVAVILEAYLRGCGTAMLQDFTQQVHVIEMLQKVTIDIKSLSAEKYDVSSQVISQLKQK
 LESLQNSNLPESFRVPYDPGLKAGTLVIEKCKVMASKKKPLWLEFKCADPTVLSNETIGIIFKHGDDLRLQ
 DMLILQILRIMESIWETESLDLCLLPYGCISTGDKIGMIEIVKDATTIAQIQSTVGNAGFAKDEVLNHW
 LKEKCPIEEKFAAVERFVYSCAGYCVATFVLGIGDRHNDNIMISSETGNLFHIDFGHILGNYKSFLGINK
 ERVPFVLPDFLVMGSSGKTSPHFQKQFQDVCVRAYLALRHHTNLLIILFSMMLMTGMPQLTSKEDIEY
 IRDALTVGKSEEDAKKYFLDQIEVCRDKGWTQVFNWFLHLVLGIKQGEKHS

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

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_020272.2, NP_064668.2</u>
RefSeq Size:	4725 bp
RefSeq ORF:	3309 bp
Locus ID:	30955
UniProt ID:	<u>Q9JHG7</u>
Cytogenetics:	12 A3

Gene Summary:

Phosphoinositide-3-kinase (PI3K) that phosphorylates 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. Links G-protein coupled receptor activation to PIP₃ production. Involved in immune, inflammatory and allergic responses. Modulates leukocyte chemotaxis to inflammatory sites and in response to chemoattractant agents. May control leukocyte polarization and migration by regulating the spatial accumulation of PIP₃ and by regulating the organization of F-actin formation and integrin-based adhesion at the leading edge. Controls motility of dendritic cells. Together with PIK3CD is involved in natural killer (NK) cell development and migration towards the sites of inflammation. Participates in T-lymphocyte migration. Regulates T-lymphocyte proliferation and cytokine production. Together with PIK3CD participates in T-lymphocyte development. Required for B-lymphocyte development and signaling. Together with PIK3CD participates in neutrophil respiratory burst. Together with PIK3CD is involved in neutrophil chemotaxis and extravasation. Together with PIK3CB promotes platelet aggregation and thrombosis. Regulates alpha-IIb/beta-3 integrins (ITGA2B/ITGB3) adhesive function in platelets downstream of P2Y₁₂ through a lipid kinase activity-independent mechanism. May have also a lipid kinase activity-dependent function in platelet aggregation. Involved in endothelial progenitor cell migration. Negative regulator of cardiac contractility. Modulates cardiac contractility by anchoring protein kinase A (PKA) and PDE3B activation, reducing cAMP levels. Regulates cardiac contractility also by promoting beta-adrenergic receptor internalization by binding to GRK2 and by non-muscle tropomyosin phosphorylation. Also has serine/threonine protein kinase activity: both lipid and protein kinase activities are required for beta-adrenergic receptor endocytosis. May also have a scaffolding role in modulating cardiac contractility. Contribute to cardiac hypertrophy under pathological stress. Through simultaneous binding of PDE3B to RAPGEF3 and PIK3R6 is assembled in a signaling complex in which the PI3K gamma complex is activated by RAPGEF3 and which is involved in angiogenesis (By similarity).[UniProtKB/Swiss-Prot Function]