

Product datasheet for **RG213112**

PI 3 Kinase catalytic subunit alpha (PIK3CA) (NM_006218) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PI 3 Kinase catalytic subunit alpha (PIK3CA) (NM_006218) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PI 3 Kinase catalytic subunit alpha
Synonyms:	CLAPO; CLOVE; CWS5; MCAP; MCM; MCMTC; p110-alpha; PI3K; PI3K-alpha
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG213112 representing NM_006218 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCC**CGATCGCC**

ATGCCCTCCAGCACCATCATCAGGTGAACTGTGGGCATCCACTTGATGCCCCCAAGAATCCTAGTAGAAT
GTTTACTACCAAATGGAATGATAGTGACTTTAGAATGCCTCCGTGAGGCTACATTAATAACCATAAAGCA
TGAAGTATTTAAAGAAGCAAGAAAATACCCCTCCATCAACTTCTCAAGATGAATCTTCTTACATTTTC
GTAAGTGTACTCAAGAAGCAGAAAGGGAAGAATTTTTGATGAAACAAGACGACTTTGTGACCTTCGGC
TTTTTCAACCCTTTTTAAAAGTAATTGAACCAGTAGGCAACCGTGAAGAAAAGATCCTCAATCGAGAAAT
TGGTTTTGCTATCGGCATGCCAGTGTGTGAATTTGATATGGTTAAAGATCCAGAAGTACAGGACTCCGA
AGAAATATTCTGAACGTTTGTAAAGAAGCTGTGGATCTTAGGGACCTCAATTCACCTCATAGTAGAGCAA
TGTATGTCTATCCTCAAATGTAGAATCTTACCAGAAATGCCAAAGCACATATAATAAATTAGATAA
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AGGATGCCCAATTTGATGTTGATGGCTAAAGAAAGCCTTTATTCTCAACTGCCAATGGACTGTTTTACAA
TGCCATCTTATTCCAGACGATTTCCACAGCTACACCATATGAATGGAGAAACATCTACAAAAATCCCT
TTGGGTTATAAATAGTGCCTCAGAATAAAAAATCTTTGTGCAACCTACGTGAATGTAAATATTCGAGAC
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TCGTGCTGCTCGACTTTGCCTTTCCATTTGCTCTGTTAAAGGCCGAAAGGGTCTAAAGAGGAACACTGT
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TAAAGAACTCCATGCTTAGAGTTGGAGTTTGACTGGTTCAGCAGTGTGGTAAAGTCCAGATATGTCA



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GTGATTGAAGAGCATGCCAATTGGTCTGTATCCCAGAGAAGCAGGATTTAGCTATTTCCACGCAGGACTGA
 GTAACAGACTAGCTAGAGACAATGAATTAAGGGAAAATGACAAAGAAGCAGCTCAAAGCAATTTCTACACG
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 AGGATGAAACACAAAAGGTACAGATGAAGTTTTAGTTGAGCAAATGAGGCGACCAGATTTTATGGATGC
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 CAGGAGATGTGTACAAGGCTTATCTAGCTATTCGACAGCATGCCAATCTCTTCAATAATCTTTTCTCAA
 TGATGCTTGGCTCTGGAATGCCAGAACAATCTTTTGGATGACATTGCATACATTGCAAAAGACCCTAGC
 CTTAGATAAAACTGAGCAAGAGGCTTTGGAGATTTTTCATGAAACAAATGAATGATGCACATCATGGTGGC
 TGGACAACAAAAATGGATTGGATCTCCACACAATTAACAGCATGCATTGAAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG213112 representing NM_006218
 Red=Cloning site Green=Tags(s)

MPPRPSSGELWGIHLMPPRILVECLLPNGMIVTLECLREATLITIKHELKFEARKYPLHQLLQDESSYIF
 VSVTQEAEREFFDETRRLCDLRLFPFLKVIIEPVGNREEKILNREIGFAIGMPVCEFDVMKDPEVQDFR
 RNILNVCKEAVDLRDLNSPHSRAMYVYPPNVESSPELPHKIYNKLDKGQIIVVIWVIVSPNNDKQKYTLK
 INHDCVPEQVIAEAIKTRSMLLSSEQLKLCVLEYQGYILKVCGCDEYFLEKYPLSQYKIRSCIMLG
 RMPNLMMLAKESLYSQLPMDCFMPSYSRRISTATPYMNGETSTKSLWVINSALRIKILCATYVNVNIRD
 IDKIYVRTGIYHGGELCDNVNTQRVPCSNPRWNEWLNVDIYIPDLPRARLCLISVKGGRKGAKEEHC
 PLAWGNINLFDYDTLVSGKMALNLWPVPHGLEDLLNPIGVTGSNPNETPCLELEFDWFSSVVKFPDMS
 VIEEHANWSVSREAGFSYSHAGLSNRLARDNELRENDKEQLKAISTRDPLSEITEQEKDFLWSHRHYCVT
 IPEILPKLLL SVKWNRSRDEVAQMYCLVKDWPIKPEQAMELLDCNYPDPMVRGFAVRCLEKYL TDDKLSQ
 YLIQLVQVLKYEYLDNLLVRFLLKKALTNQRIGHFFFWHLKSEMHNKTVSQRFLGLLLESYCRACGMYLK
 HLNQRQVEAMEKLINLTDILKQEKKDETQKVQMKFLVEQMRRPDFMDALQGFLSPLNPAHQLGNLRLEECR
 IMSSAKRPLWLNWENPDIMSELLFQNNIEIFKNGDDLQDMLTLQIIRIMENIWQNQGLDLRMLPYGCLS
 IGDCVGLIEVVRNSHTIMQIQCKGGLKALQFNSHTLHQWLKDKNKEIYDAAIDLFTSCAGYCVATFI
 LGIGDRHNSNIMVKDDGQLFHIDFGHFLDHKKKFGYKRERVPFVLTQDFLIVISKGAQECTKTREFERF
 QEMCYKAYLAIRQHANLFINLFSMMLGSGMPELQSFDDIAYIRKTLALDKTEQEALYFMKQMNDAHHGG
 WTTKMDWIFHTIKQHALN

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_006218

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.

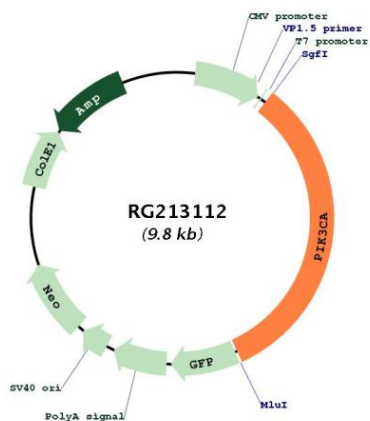
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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:	<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:	NM_006218.4
RefSeq Size:	3724 bp
RefSeq ORF:	3207 bp
Locus ID:	5290
UniProt ID:	P42336
Cytogenetics:	3q26.32
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
Gene Summary:	Phosphatidylinositol 3-kinase is composed of an 85 kDa regulatory subunit and a 110 kDa catalytic subunit. The protein encoded by this gene represents the catalytic subunit, which uses ATP to phosphorylate PtdIns, PtdIns4P and PtdIns(4,5)P2. This gene has been found to be oncogenic and has been implicated in cervical cancers. A pseudogene of this gene has been defined on chromosome 22. [provided by RefSeq, Apr 2016]

Product images:



Circular map for RG213112