

## Product datasheet for **MR225837**

### Pik3cd (NM\_001164050) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Pik3cd (NM_001164050) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Pik3cd
Synonyms:	2410099E07Rik; 2610208K16Rik; AW545373; p110delta
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>MR225837 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGCCCCCTGGGGTGGACTGCCCATGGAGTTCTGGACCAAGAGGAGAGCCAGAGCGTGGTTGTTGACT  
TCTTGCTGCCACAGGGTCTACTTGAACCTCCCGTGTCCCGCAATGCCAACCTCAGCACCATCAAGCA  
GGTGTGTGGCACCCTGCACAGTATGAGCCACTTCCACATGCTCAGTGACCCCGAGGCTATGTGTT  
ACCTGTGTGAACCAGACGGCGGAGCAGCAGGAGTTGGAGGATGAGCAGCGGAGGCTGTGCGACATCCAGC  
CCTTCTGCCCGTGTGCGCCTCGTGGCCCGAGAGGGGACCGCGTGAAGAAGCTCATTAACTCCAGAT  
CAGCCTCCTCATTGGCAAAGGTCTCCATGAGTTTGATTCCCTGCGGGACCCGGAAGTAAACGACTCCGC  
ACTAAGATGCGCCAGTTTTGTGAAGAGGCTGCTGCTCACCGCCAGCAGCTGGGCTGGGTGGAATGGCTGC  
AGTACAGCTTCCCTGCAGCTGGAGCCCTCAGCAAGGGGTTGGCGGGCCGGCTTATTGCGTGTGAGCA  
CCGAGCCCTGTGGTCAACGTGAAGTTCGAGGGCAGTGGAGAGCTTCCCTCCAGGTATCCACCAAG  
GACATGCCCTGGCACTGATGGCCTGTGCCCTCCGAAAAAGGCCACAGTGTCCGGCAGCCTCTGGTGG  
AGCAGCCTGAGGAATATGCCCTGCAGTGAACGGGAGGCAGCAATACCTACGGCACTACCCGCTCTG  
CCACTTTTCAGTACATCTGCAGCTGCCTACACAGCGGGCTGACCCCTCATCTGACCATGGTCCACTCCTC  
TCCATCCTTGCTATGCGGGATGAGCAGAGCAATCCTGCCCCCAAGTACAGAAACCACGTGCCAAACCTC  
CCCCGATCCCTGCCAAGAAGCCCTCCTCTGTGTCCTGTGGTCCCTGGAACAGCCATTCTCCATTGAGCT  
GATCGAGGGCCGAAAAGTGAATGCTGACGAGCGGATGAAGCTGGTTGTTGAGCCGGGCTTCCATGGC  
AATGAGATGCTGTGCAAGACTGTGTCAAGCTCGGAGGTGAATGTATGCTCAGAGCCCGTGTGGAAGCAGC  
GACTGGAGTTCGATATCAGCGTCTGTGACCTCCCGCGCATGGCTCGACTCTGTTTTGCTCTATGCCGT  
CGTGGAGAAGGCTAAGAAGGCACGCTCCACAAAGAAGAAGTCTAAGAAGGCGGACTGCCCATCGCTTGG  
GCCAACCTCATGTATTGACTACAAAGATCAGCTCAAGACGGGGAGCGCTGCCTCTACATGTGGCCCT  
CTGTCCCAGATGAGAAGGGAGAGCTGCTGAATCCTGCGGGTACAGTGCGCGGGAACCCCAACCGGAGAG  
TGCCGCTGCCCTGGTCTACCTGCCTGAGGTGGCCCCCACCCTGTGTACTTCCCGCTCTGGAGAAG  
ATCCTGGAGCTGGGGCGTCACGGGGAGCGTGGCGCATCACGGAGGAGGAGCAGCTGCAGCTGCGGGAGA



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TCCTGGAACGGCGGGGATCCGGGGAACGTACGAACATGAGAAGGACCTGGTGTGGAAGATGCGCCACGA  
 AGTCCAGGAGCATTTCCAGAGGCGCTGGCCCGCTGCTGCTGGTACCAAGTGGAAATAACACGAGGAT  
 GTGGCCAGATGCTCTATTTGCTGTGCTCCTGGCCGAGCTGCCTGTGCTGAGCGCCCTGGAACCTCTGG  
 ACTTTAGCTTTCCCGACTGCTACGTGGGCTCCTTCGCCATCAAGTCCCTTCGGAAGCTGACGGACGATGA  
 GCTCTTCCAGTACCTTCTGCAGCTGGTGAAGTCTCAAATATGAGTCTACCTGGACTGCGAGCTGACC  
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 CCACATGAAGGTCTGATGAAGCAGGGGAAGCACTGAGCAAGCTTAAGGCACTGAATGACTTTGTGAAG  
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 GGAGCAGTGCACCTTCATGGACTCCAAAATGAAGCCCCTGTGGATCATGTACAGCAGCGAGGAGGCGGGC  
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 ATATGTTCTGGGCATCGGTGACCGGCACAGCGACAACATCATGATCAGAGAGAGTGGGCAGCTCTCCAC  
 ATTGATTTGGCCACTTTCTGGGAACTTCAAGACCAAGTTTGAATCAACCGAGAGCGCGTCCCCTTCA  
 TTCTCACCTACGACTTTGTCCACGTGATCCAGCAGGGGAAGACTAACACAGTGAGAAGTTTGAAGGTT  
 CCGCGGCTACTGTGAACGAGCCTATACCATCCTGCGGCGCCACGGGCTGCTTTTCTCCATCTCTTCGCC  
 CTGATGCGGGCCGAGGTCTGCCTGAGCTTAGCTGCTCCAAGATATCCAGTATCTCAAGGACTCTCTGG  
 CACTGGGAAGACGGAGGAAGAGGCGCTAAAGCACTTCCGGGTGAAGTTCAACGAAGCTCTCCGAGAAAG  
 CTGGAAAACCAAAGTCAACTGGCTGGCGCAATGTGTCCAAGGATAACCGACAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR225837 protein sequence  
 Red=Cloning site Green=Tags(s)

MPPGVDCPMEFWTKESQSVVDFLLPTGVYLNFPVSRNANLSTIKQVLWHRAQYEPLFHMLSDPEAYVF  
 TCVNQTAEQELEDQRRLCDIQPFLPVLRLVAREGDRVKKLINSQISLLIGKGLHEFDSLDPVNDFR  
 TKMRQFCEEAHRQQLGWVEWLQYSFPLQLEPSARGWRAGLLRVSNRALLVNVKFESEESFTFQVSTK  
 DMPLALMACALRKKATVFRQPLVEQPEEYALQVNGRHEYLGNYPPLCHFQYICSLHSLGTPHLTMVHSS  
 SILAMRDEQSNPAPQVQKPRAKPPPIPAKKPSSVSLWSLEQPFSEIELIEGRKVNADERMMLVVQAGLFHG  
 NEMLCKTVSSSEVNVCSPEVWKQRLEFDISVCDLPRMARLFCALYAVVEKAKKARSTKKKSKKADCP  
 ANLMLFDYKDLKTGERCLYMWPSVPDEKGELLPAGTVRGNPNTESAALVIYLPVAPHPVYFPALEK  
 ILELGRHGERGRITEEELQLREILERRGSGELYEHEKDLVWKMREVEHFPEALARLLLVTKWKNHED  
 VAQMLYLLCSWPELPVLSALELLDFSPDCYVGSFAIKSLRKLTDDELQYLLQLVQVLKYESYLDCELT  
 KFLLGRALANRKIGHFLFWHLRSEMHPVSVALRFGLIMEAYCRGSTHMKVLMKQGEALSKLKALNDFVK  
 VSSQKTKPQTKEMMHCMRQETymealshlqspldpstllEEVCSVEQCTFMDSKMKPLWIMYSSEEAG  
 SAGNVGIFKNGDDLQDMLTLQMIQLMDVLRWQEGDLRMTYPYGLPTGDRGTGLIEVVLHSDTIANIQL  
 NKSNAATAAFNKDALLNWLKSKNPGEALDRAIEEFTLSCAGYCVATYVVLGIGDRHSDNIMIRESGQLFH  
 IDFGHFLGNFKTKFGINRERVPIILTYDFVHVIQQGKTNNSEKFERFRGYCERAYTILRRHGLLFLHLFA  
 LMRAAGLPELSCSKDIQYLKDSLALGKTEEEALKHFRVKFNEALRESWTKVNWLAHNVSKDNRQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

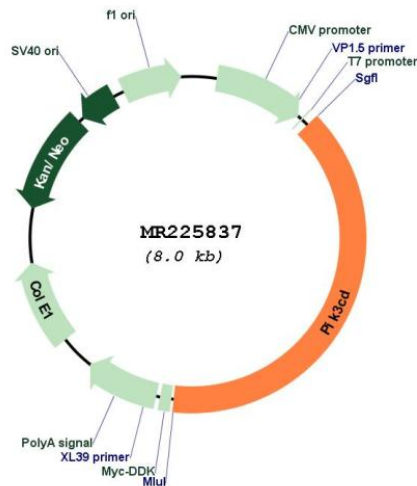
**Restriction Sites:**

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM\_001164050

ORF Size: 3135 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](#)

<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_001164050.1</a>, <a href="#">NP_001157522.1</a></u>
<b>RefSeq Size:</b>	4915 bp
<b>RefSeq ORF:</b>	3138 bp
<b>Locus ID:</b>	18707
<b>Cytogenetics:</b>	4 E2
<b>MW:</b>	119.9 kDa

**Gene Summary:**

Phosphoinositide-3-kinase (PI3K) that phosphorylates PtdIns(4,5)P<sub>2</sub> (Phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP<sub>3</sub>). PIP<sub>3</sub> 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. Mediates immune responses. Plays a role in B-cell development, proliferation, migration, and function. Required for B-cell receptor (BCR) signaling. Mediates B-cell proliferation response to anti-IgM, anti-CD40 and IL4 stimulation. Promotes cytokine production in response to TLR4 and TLR9. Required for antibody class switch mediated by TLR9. Involved in the antigen presentation function of B-cells. Involved in B-cell chemotaxis in response to CXCL13 and sphingosine 1-phosphate (S1P). Required for proliferation, signaling and cytokine production of naive, effector and memory T-cells. Required for T-cell receptor (TCR) signaling. Mediates TCR signaling events at the immune synapse. Activation by TCR leads to antigen-dependent memory T-cell migration and retention to antigenic tissues. Together with PIK3CG participates in T-cell development. Contributes to T-helper cell expansion and differentiation. Required for T-cell migration mediated by homing receptors SELL/CD62L, CCR7 and S1PR1 and antigen dependent recruitment of T-cells. Together with PIK3CG is involved in natural killer (NK) cell development and migration towards the sites of inflammation. Participates in NK cell receptor activation. Have a role in NK cell maturation and cytokine production. Together with PIK3CG is involved in neutrophil chemotaxis and extravasation. Together with PIK3CG participates in neutrophil respiratory burst. Have important roles in mast-cell development and mast cell mediated allergic response. Involved in stem cell factor (SCF)-mediated proliferation, adhesion and migration. Required for allergen-IgE-induced degranulation and cytokine release. The lipid kinase activity is required for its biological function.[UniProtKB/Swiss-Prot Function]