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Product datasheet for RC212288

PIP5K3 (PIKFYVE) (NM_152671) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PIP5K3 (PIKFYVE) (NM_152671) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PIP5K3
Synonyms:	CFD; FAB1; HEL37; PIP5K; PIP5K3; ZFYVE29
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC212288 representing NM_152671
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCACAGATGATAAGACGTCCCCAACACTGGACTCTGCTAATGATTTGCCTCGATCTCCTACTAGTC
CTTCTCATCTCACACACTTTAAACCTTTGACTCCTGATCAAGATGAGCCCCCTTTTAAATCAGCTTATAG
TTCTTTTGTAAATCTCTTTCGTTTTAACAAAGAGAGAGCAGAAGGAGGCCAGGGAGAACAGCAGCCTTTG
AGTGGAAGTTGGACCAGCCCTCAGCTCCCTTCGAGGACACAGTCTGTTAGGTCACCCACACCTTATAAAA
AGCAGCTTAATGAGGAACTCCAGCGGCGCTCTTCAGCATTAGGAGACCTCCGAGCTTGCACATATTGTAG
AAAAATAGCCTTAAGTTATGCTCATTCCACAGACAGTAATTCTATTGGGGAAGACTTGAATGCTCTTTCA
GATTCTGCTTGCTCTGTGTCTGTGCTTGATCCAAGTGAACCCCGAACACCTGTTGGGAGTAGGAAAGCCA
GCCGTAACATATTTTTAGAGGATGATTTGGCCTGGCAAAGTTTGATTCATCCAGATTCCTCAAATACTCC
TCTTTCAACAAGACTTGTATCTGTGCAAGAGGATGCTGGGAAATCTCCTGCTCGAAATAGATCAGCCAGC
ATTACTAACCTGTCACTGGATAGATCTGGTTCTCCTATGGTACCTTCATATGAGACATCTGTCAGTCCCC
AGGCTAACCGAACATATGTTAGGACAGAGACCACTGAGGATGAACGCAAAATTCTTCTGGACAGTGTGCA
GTTAAAAGACCTGTGGAAAAAAATCTGCCATCACAGCAGTGGAATGGAGTTTCAGGATCACCGCTACTGG
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CCACAAGGGCACAAGCTATAGCAATTGGACAAGCAATGGTTGATGGACGTTGGCTGGATTGTGTTAGTCA
TCACGACCAGCTTTTCAGAGATGAGTATGCGCTGTATAGACCACTGCAGAGTACAGAATTTTCTGAGACG
CCTTCTCCCGACAGTGACTCAGTGAACTCCGTGGAAGGACACTCTGAGCCATCCTGGTTTAAAGACATAA
AGTTTGATGACAGTGACACAGAACAGATAGCTGAAGAAGGTGACGATAATTTGGCTAATTCTGCCAGTCC
TAGCAAGCGCACATCAGTCAGCAGTTTCCAGTCCACAGTGGACAGTGACTCAGCCGCTTCTATCAGCCTG
AACGTGGAGCTGGACAACGTGAACTTCCATATCAAGAAGCCCTCCAAGTACCCACATGTGCCCCCTCACC
CTGCTGACCAAAAAGGTAGGAGG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC212288 representing NM_152671
Red=Cloning site Green=Tags(s)

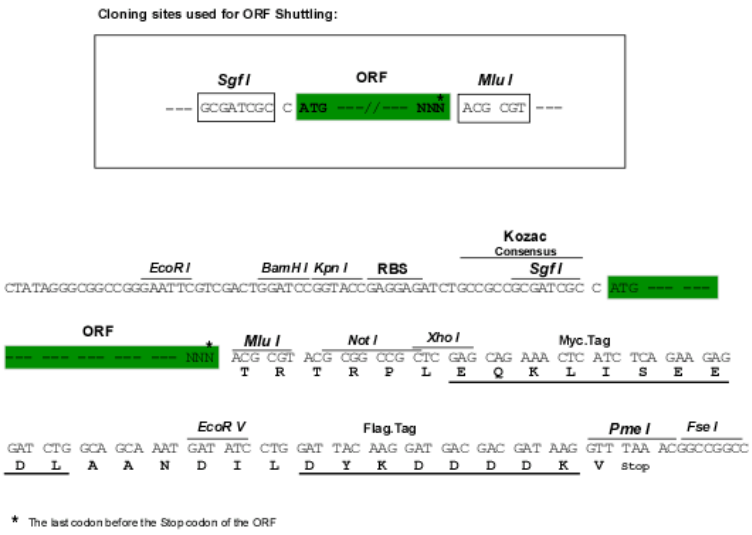
MATDDKTSPTLDSANDLPRSPTSPSHLTHFKPLTPDQDEPPFKSAYSSFVNLFRFNKERAEGGQGEQQPL
SGSWTSPQLPSRTQSVRSPTPYKKQLNEELQRRSSALGDLRACTYCRKIALSYAHSTDSNSIGEDLNALS
DSACSVSVLDPSEPRTPVGSRKASRNIFLEDDLAWQSLIHPDSSNTPLSTRLVSVQEDAGKSPARNRSAS
ITNLSLDRSGSPMVPSYETSVSPQANRTYVRTETTEDERKILLDSVQLKDLWKKICHHSSGMEFQDHRYW
LRTHPNCIVGKELVNWLIRNGHIATRAQAIAIGQAMVDGRWLDCVSHHDQLFRDEYALYRPLQSTEFSET
PSPDSDSVNSVEGHSEPSWFKDIKFDDSDTEQIAEEGDDNLANSASPSKRTSVSSFQSTVDSDSAASISL
NVELDNVNFHIKKPSKYPHVPPHPADQKGRR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/ja1306_e05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_152671

ORF Size: 1353 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: NM_152671.3, NP_689884.1

RefSeq Size: 1661 bp

RefSeq ORF: 1356 bp

Locus ID: 200576

UniProt ID: Q9Y2I7

Cytogenetics: 2q34

Domains: DEP

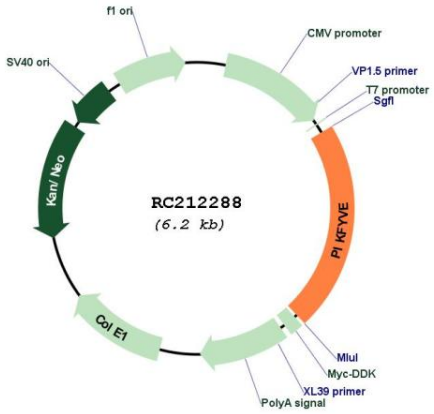
Protein Families: Druggable Genome

Protein Pathways: Endocytosis, Fc gamma R-mediated phagocytosis, Inositol phosphate metabolism, Metabolic pathways, Phosphatidylinositol signaling system, Regulation of actin cytoskeleton

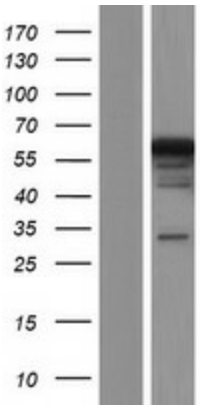
MW: 50 kDa

Gene Summary: Phosphorylated derivatives of phosphatidylinositol (PtdIns) regulate cytoskeletal functions, membrane trafficking, and receptor signaling by recruiting protein complexes to cell- and endosomal-membranes. Humans have multiple PtdIns proteins that differ by the degree and position of phosphorylation of the inositol ring. This gene encodes an enzyme (PIKfyve; also known as phosphatidylinositol-3-phosphate 5-kinase type III or PIPKIII) that phosphorylates the D-5 position in PtdIns and phosphatidylinositol-3-phosphate (PtdIns3P) to make PtdIns5P and PtdIns(3,5)biphosphate. The D-5 position also can be phosphorylated by type I PtdIns4P-5-kinases (PIP5Ks) that are encoded by distinct genes and preferentially phosphorylate D-4 phosphorylated PtdIns. In contrast, PIKfyve preferentially phosphorylates D-3 phosphorylated PtdIns. In addition to being a lipid kinase, PIKfyve also has protein kinase activity. PIKfyve regulates endomembrane homeostasis and plays a role in the biogenesis of endosome carrier vesicles from early endosomes. Mutations in this gene cause corneal fleck dystrophy (CFD); an autosomal dominant disorder characterized by numerous small white flecks present in all layers of the corneal stroma. Histologically, these flecks appear to be keratocytes distended with lipid and mucopolysaccharide filled intracytoplasmic vacuoles. Alternative splicing results in multiple transcript variants encoding distinct isoforms.[provided by RefSeq, May 2010]

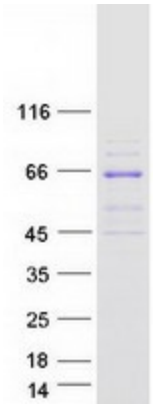
Product images:



Circular map for RC212288



Western blot validation of overexpression lysate (Cat# [LY407390]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212288 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PIKFYVE protein (Cat# [TP312288]). The protein was produced from HEK293T cells transfected with PIKFYVE cDNA clone (Cat# RC212288) using MegaTran 2.0 (Cat# [TT210002]).