

Product datasheet for **RG212288**

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:	TurboGFP
Symbol:	PIKFYVE
Synonyms:	CFD; FAB1; HEL37; PIP5K; PIP5K3; ZFYVE29
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG212288 representing NM_152671
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCACAGATGATAAGACGTCCCAACACTGGACTCTGCTAATGATTTGCCTCGATCTCTACTAGTC
 CTCTCATCTCACACTTTAAACCTTTGACTCCTGATCAAGATGAGCCCTTTTAAATCAGCTTATAG
 TTCTTTTGTAATCTCTTTTCGTTTTAACAAAGAGAGAGCAGAAGGAGGCCAGGGAGAACAGCAGCCTTTG
 AGTGGAAGTTGGACCAGCCCTCAGCTCCCTTCGAGGACACAGTCTGTTAGGTACCCACACCTTATAAAA
 AGCAGCTTAATGAGGAACTCCAGCGGGCTCTTCAGCATTAGGAGACCTCCGAGCTTGCACATATTGTAG
 AAAAAATAGCCTTAAGTTATGCTCATTCCACAGACAGTAATTCTATTGGGAAGACTTGAATGCTCTTTCA
 GATTCTGCTTGTCTGTGCTGTGCTTGTCCAAGTGAACCCGAACACCTGTTGGGAGTAGGAAAGCCA
 GCCGTAACATATTTTAGAGGATGATTTGGCTGGCAAAGTTTGATTCATCCAGATTCTCAAATACTCC
 TCTTTCAACAAGACTTGTATCTGTGCAAGAGGATGCTGGGAAATCTCTGCTCGAAATAGATCAGCCAGC
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 GTTAAAAGACCTGTGGAAAAAATCTGCCATCACAGCAGTGGAAATGGAGTTTCAGGATCACCGCTACTGG
 TTGAGAACGCATCCCAACTGCATTGTAGGAAAGGAATTAGTCAACTGGCTAATCCGAAATGGGCATATTG
 CCACAAGGGCACAAAGCTATAGCAATTGGACAAGCAATGGTTGATGGACGTTGGCTGGATTGTGTTAGTCA
 TCACGACCAGCTTTTCAGAGATGAGTATGCGCTGTATAGACCACTGCAGAGTACAGAATTTCTGAGACG
 CCTTCTCCCGACAGTGACTCAGTGAACCTCGTGAAGGACACTCTGAGCCATCTGGTTTAAAGACATAA
 AGTTTGATGACAGTGACACAGAACAGATAGCTGAAGAAGGTGACGATAATTTGGCTAATTCTGCCAGTCC
 TAGCAAGCGCACATCAGTCAGCAGTTTCCAGTCCACAGTGGACAGTACTCAGCCGTTCTATCAGCCTG
 AACGTGGAGCTGGACAACGTGAACCTCCATATCAAGAAGCCCTCAAGTACCCACATGTGCCCCCTCACC
 CTGCTGACCAAAAAGGTAGGAGG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG212288 representing NM_152671
 Red=Cloning site Green=Tags(s)

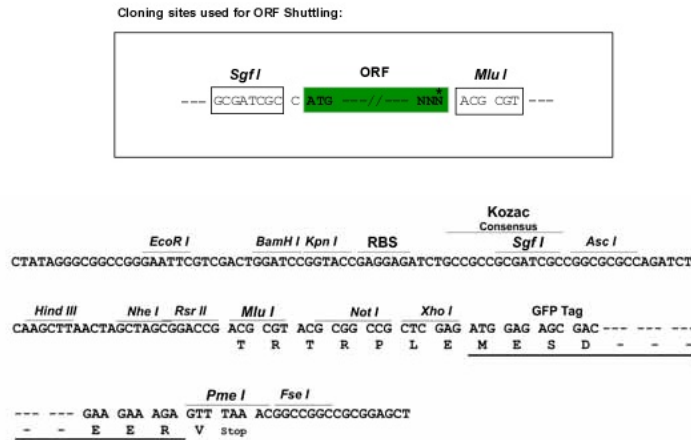
MATDDKTSPTLDSANDLPRSPTSPSHLTHFKPLTPDQDEPPFKSAYSSFVNLFRFNKERAEGGQGEQQPL
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 DSACSVSLDPSEPRTPVGSRKASRNIFLEDDLAWQSLIHPDSSNTPLSTRLVSVQEDAGKSPARNRSAS
 ITNLSLDRSGSPMVPSYETSVSPQANRTYVRTEETEDERKILLDSVQLKDLWKKICHSSGMEFQDHRYS
 LRTHPNCIVGKELVNWLIIRNGHIAIRAQAIAIGQAMVDGRWLDVSHHDQLFRDEYALYRPLQSTEFSET
 PSPDSDSVNSVEGHSEPSWFKDIKFDDSDTEQIAEEGDDNLANSASP SKRTSVSSFQSTVSDSAASISL
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TRTRPLE – GFP Tag – V

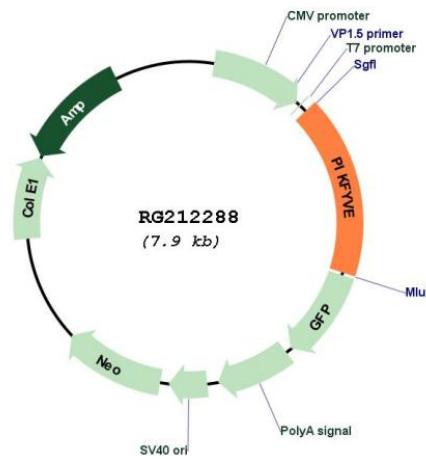
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



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:	<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_152671.3</u> , <u>NP_689884.1</u>
RefSeq Size:	1661 bp
RefSeq ORF:	1356 bp
Locus ID:	200576
UniProt ID:	<u>Q9Y2I7</u>
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
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]