

## Product datasheet for **RC401087**

### **FH (NM\_000143) Human Mutant ORF Clone**

#### **Product data:**

Product Type:	Mutant ORF Clones
Product Name:	FH (NM_000143) Human Mutant ORF Clone
Mutation Description:	R160G
Affected Codon#:	160
Affected NT#:	478
Nucleotide Mutation:	FH Mutant (R160G), Myc-DDK-tagged ORF clone of Homo sapiens fumarate hydratase (FH), nuclear gene encoding mitochondrial protein as transfection-ready DNA
Effect:	Leiomyomosis nd renl ell ner
Symbol:	FH
Synonyms:	FMRD; HLRCC; HsFH; LRCC; MCL; MCUL1
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000143
ORF Size:	1530 bp
Restriction Sites:	Sgfi-Mlul



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**ORF Nucleotide Sequence:**

>RC401087 representing NM\_000143  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTACCGAGCACTTCGGCTCCTCGCGCTCGCGTCCCCTCGTCCGGCTCCAGCCGACGCTTAGCTT  
 CGGCTCCCGGCTTGGGTGGCGCGCCGTCGCCCTCGTTTTGGCCTCCGAACGCGGCTCGAATGGCAAGCCA  
 AAATTCCTTCCGGATAGAATATGATACCTTTGGTGAACAAAGGTGCCAATGATAAGTATTATGGCGCC  
 CAGACCGTGAGATCTACGATGAACCTTAAGATTGGAGGTGTGACAGAACGCATGCCAACCCAGTTATTA  
 AAGCTTTTGGCATCTTGAAGCGAGCGCCGCTGAAGTAAACCAGGATTATGGTCTTGATCCAAAGATTGC  
 TAATGCAATAATGAAGGCAGCAGATGAGGTAGCTGAAGTAAATTAATGATCATTTTCTCTCGTGTA  
 TGGCAGACTGGATCAGGAACTCAGACAAATATGAATGTAATGAAGTCATTAGCAATGGAGCAATTGAAA  
 TGTTAGGAGGTGAACCTGGCAGCAAGATACCTGTGCATCCCAACGATCATGTTAATAAAGCCAGAGCTC  
 AAATGATACTTTCCACAGCAATGCACATTGCTGCTGCAATAGAAGTTCATGAAGTACTGTTACCAGGA  
 CTACAGAAGTTACATGATGCTCTTGATGCAAAATCCAAAGAGTTTGCACAGATCATCAAGATTGGACGTA  
 CTCATACTCAGGATGCTGTTCCACTTACTCTTGGGCAGGAATTTAGTGGTTATGTTCAACAAGTAAAATA  
 TGCAATGACAAGAATAAAGCTGCCATGCCAAGAATCTATGAGCTCGCAGCTGGAGGCACTGCTGTTGGT  
 ACAGGTTTAAATACTAGAATTGGCTTTGCAGAAAAGGTTGCTGCAAAAGTGGCTGCACCTACAGGCTTGC  
 CTTTTGCTACTGCTCCGAATAAATTTGAAGCTCTGGCTGCTCATGACGCTCTGGTTGAGCTCAGTGGAGC  
 CATGAACACTACTGCCTGCAGTCTGATGAAGATAGCAAATGATATTCGATTTTGGGTTCTGGTCTCGG  
 TCAGGTCTGGGAGAATTGATCTTGCTGAAAATGAACCAAGCAAGTATCATGCCAGGCAAGGTGAACC  
 CTACTCAGTGTGAAGCAATGACCATGGTTGCAGCCCAAGTCATGGGGAACCATGTTGCTGCTACTGTCGG  
 AGGCAGCAATGGACATTTTGAAGTGAATGTTTTCAAGCCAATGATGATTAATAAATGTGTTACACTCAGCC  
 AGGCTGCTGGGGATGCTTCAGTTTCTTTACAGAAAATGCGTGGTGGGAATCCAGGCAATACAGAAA  
 GGATCAACAAGCTGATGAATGAGTCTCTAATGTTGGTGCAGCTCTCAATCCTCATATAGGGTATGACAA  
 GGCAGCAAAGATTGCTAAGACAGCACACAAAAATGGATCAACCTTAAAGGAAACTGCTATCGAATTGGC  
 TATCTCACAGCAGAGCAGTTTGACGAATGGGTAAAACCTAAGGACATGCTGGTCCAAAG

AG**CGGACCG**ACGCGTACGCGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

>RC401087 representing NM\_000143  
 Red=Cloning site Green=Tags(s)

MYRALRLLARSRPLVRAPAAALASAPGLGGAAVPSFWPPNAARMASQNSFRIEYDTFGELKVPNDKYYGA  
 QTVRSTMNFKIGGVTERMPVPIKAFGILKRAAAEVNQDYGLDPKIANAIMKAADEVAEGLNDHFPLVV  
 WQTGSGTQTNMNVNEVISNGAIEMLGELGSKIPVHPNDHVNSQSSNDTFPTAMHIAAAIEVHEVLLPG  
 LQKLHDALDAKSKEFAQIIKIGRTHQTDAVPLTLGQEFSGYVQVQKYAMTRIKAAMPRIYELAAGGTAVG  
 TGLNTRIGFAEKVAAKVAALTLGPFVTAPNKFEALAAHDALVELSGAMNTTACSLMKIANDIRFLGSGPR  
 SGLGELILPENEPGSSIMPQVNPQCEAMTMVAAQVMGNHVAVTVGGSNGHFELNVFKPMMIKNLVHSA  
 RLLGDASVSFTENCVVGIQANTERINKLMNESLMLVLTALNPHIGYDKAAKIAKTAHKNSTLKETAIELG  
 YLTAEQFDEWVKPKDMLGPK

**SGP**TRRRLE**QKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI



**MW:** 56.1 kDa

**Gene Summary:** The protein encoded by this gene is an enzymatic component of the tricarboxylic acid (TCA) cycle, or Krebs cycle, and catalyzes the formation of L-malate from fumarate. It exists in both a cytosolic form and an N-terminal extended form, differing only in the translation start site used. The N-terminal extended form is targeted to the mitochondrion, where the removal of the extension generates the same form as in the cytoplasm. It is similar to some thermostable class II fumarases and functions as a homotetramer. Mutations in this gene can cause fumarase deficiency and lead to progressive encephalopathy. [provided by RefSeq, Jul 2008]