

Product datasheet for RC401077

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: Q47X

Affected Codon#: 47

Affected NT#: 139

Nucleotide Mutation: FH Mutant (Q47X), Myc-DDK-tagged ORF clone of Homo sapiens fumarate hydratase (FH),

nuclear gene encoding mitochondrial protein as transfection-ready DNA

Effect: Muliple leiomyomosis

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: 138 bp Restriction Sites: Sgfl-Mlul

ORF Nucleotide >RC401077 representing NM_000143

Sequence: Red=Cloning site Blue=ORF Green=Tags(s)

 ${\tt TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC}$

GCCGCGATCGCC

ATGTACCGAGCACTTCGGCTCCTCGCGCGCTCCCCTCGTGCGGGCTCCAGCCGCAGCCTTAGCTTCGGCTCCCGGCTTGGGTGGCGCGCCGTGCCCTCGTTTTGGCCTCCGAACGCGGCTCGAATGGCAAGC

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGATCTGGCAGCAAATGATATCC

TGGATTACAAGGATGACGACGA TAAGGTTTAA



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Protein Sequence: >RC401077 representing NM_000143

Red=Cloning site Green=Tags(s)

MYRALRLLARSRPLVRAPAAALASAPGLGGAAVPSFWPPNAARMAS

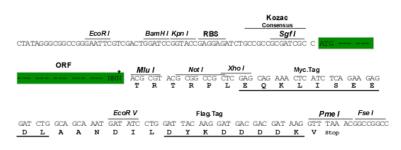
SGPTRTRRLEOKLISEEDLAANDILDYKDDDDK**V**

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:





^{*} The last codon before the Stop codon of the ORF

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 customport@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).

RefSeq: <u>NP 000134</u>

RefSeq Size: 138 bp RefSeq ORF: 1533 bp



FH (NM_000143) Human Mutant ORF Clone - RC401077

Locus ID: 2271
Cytogenetics: 1q43
Domains: lyase_1

Protein Families: Druggable Genome

Protein Pathways: Citrate cycle (TCA cycle), Metabolic pathways, Pathways in cancer, Renal cell carcinoma

MW: 5.1 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]