

Product datasheet for **RC200614**

FH (NM_000143) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	FH (NM_000143) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	FH
Synonyms:	FMRD; HLRCC; HsFH; LRCC; MCL; MCUL1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC200614 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTACCGAGCACTTCGGCTCCTCGCGCTCGCTCCCTCGTGCGGGTCCAGCCGAGCCTTAGCTT
 CGGCTCCCGCTTGGGTGGCGCGCCGTCCTCGTTTTGGCCTCCGAACGCGGCTCGAATGGCAAGCCA
 AAATTCCTTCCGGATAGAATATGATACCTTTGGTGAAGTAAAGGTGCCAATGATAAGTATTATGGCGCC
 CAGACCGTGAGATCTACGATGAAGTTAAGATTGGAGGTGTACAGAACGCATGCCAACCCAGTTATTA
 AAGCTTTTGGCATCTTGAAGCGAGCGGCCGCTGAAGTAAACCAGGATTATGGTCTTGATCCAAAGATTGC
 TAATGCAATAATGAAGGCAGCAGATGAGGTAGCTGAAGTAAATTAATGATCATTTTCTCTCGTGGA
 TGGCAGACTGGATCAGGAACTCAGACAAATATGAATGAAATGAAGTCATTAGCAATAGAGCAATTGAAA
 TGTTAGGAGGTGAAGTTGGCAGCAAGATACCTGTGCATCCCAACGATCATGTTAATAAAGCCAGAGCTC
 AAATGATACTTTTCCACAGCAATGCACATTGCTGCTGCAATAGAAGTTCATGAAGTACTGTTACCAGGA
 CTACAGAAAGTTACATGATGCTCTTGATGCAAAATCCAAAGAGTTTGCACAGATCATCAAGATTGGACGTA
 CTCATACTCAGGATGCTGTTCCACTTACTCTTGGGCAGGAATTTAGTGGTTATGTTCAACAAGTAAATA
 TGCAATGACAAGAATAAAAGCTGCCATGCCAAGAATCTATGAGCTCGCAGCTGGAGGCACTGCTGTTGGT
 ACAGGTTTAAATACTAGAATTGGCTTGGCAGAAAAGGTTGCTGCAAAAGTGGCTGCACCTACAGGCTTGC
 CTTTTGCTACTGCTCCGAATAAATTTGAAGCTCTGGCTGCTCATGACGCTCTGGTTGAGCTCAGTGGAGC
 CATGAACACTACTGCCTGCAGTCTGATGAAGATAGCAAATGATATTCGATTTTGGGTTCTGGTCTCGG
 TCAGGTCTGGGAGAATTGATCTTGCCTGAAAATGAACCAGGAAGCAGTATCATGCCAGGCAAGGTGAACC
 CTACTCAGTGTGAAGCAATGACCATGGTTGCAGCCCAAGTCATGGGGAACCATGTTGCTACTGTCGG
 AGGCAGCAATGGACATTTTGAAGTTGAATGTTTTCAAGCCAATGATGATTAAAAATGTGTTACACTCAGCC
 AGGCTGCTGGGGATGCTTCAGTTTCTTTACAGAAAATGCGTGGTGGGAATCCAGGCCAATACAGAAA
 GGATCAACAAGCTGATGAATGAGTCTCTAATGTTGGTGACAGCTCTCAATCCTCATATAGGGTATGACAA
 GGCAGCAAAGATTGCTAAGACAGCACACAAAAATGGATCAACCTTAAAGGAAACTGCTATCGAAGTTGGC
 TATCTCACAGCAGAGCAGTTTGACGAATGGGTAACCTAAGGACATGCTGGTCCAAAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC200614 protein sequence
 Red=Cloning site Green=Tags(s)

MYRALRLLARSRPLVRAPAAALASAPLGGAAVPSFWPPNAARMASQNSFRIEYDTFGELKVPNDKYYGA
 QTVRSTMNFKIGGVTERMPTPVIAKAFGLKRAAAEVNQDYGLDPKIANAIMKAADEVAEGLNDHFPLVV
 WQTGSGTQTNMNVNEVISNRAIEMLGELGSKIPVHPNDHVNKSQSSNDTFPTAMHIAAAIEVHEVLLPG
 LQKLHDALDAKSKEFAQIIKIGRTHTQDAVPLTLGQEFSGYVQVQKYAMTRIKAAMPRIYELAAGGTAVG
 TGLNTRIGFAEKVAAKVAALTGLPFVTAPNKFEALAAHDALVELSGAMNTTACSLMKIANDIRFLGSGPR
 SGLGELILPENEPGSSIMPVKVNPQCEAMTMVAAQVMGNHVAVTVGGSNHGFELNVFKPMMIKNVLHSA
 RLLGDASVSFTENCVVGIQANTERINKLMNESLMLVTALNPHIGYDKAAKIAKTAHKNSTLKETAIELG
 YLTAEQFDEWVKPKDMLGPK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

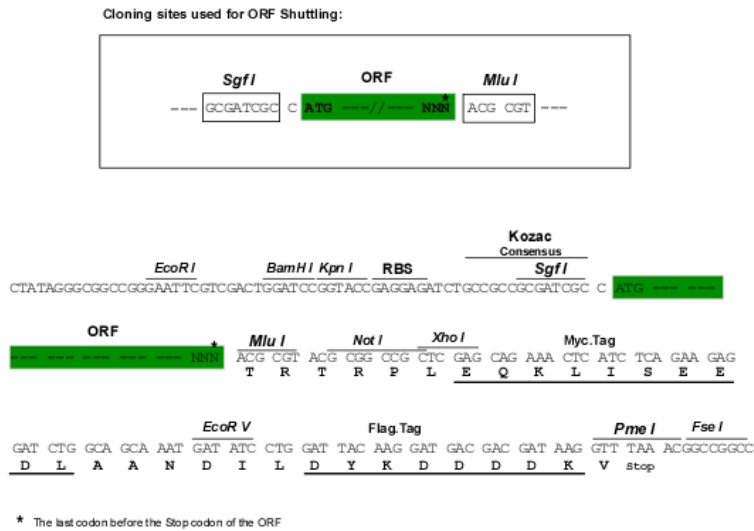
Chromatograms:

https://cdn.origene.com/chromatograms/mk6080_g01.zip

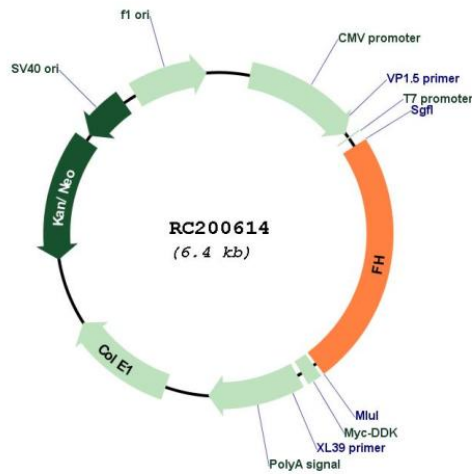
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



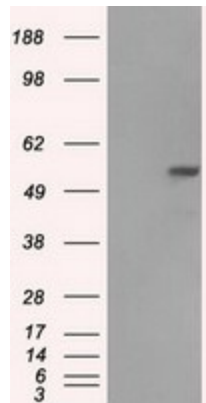
ACCN:

NM_000143

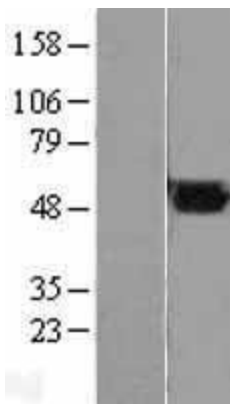
ORF Size:	1530 bp
OTI Disclaimer:	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional 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 custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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</p>
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:	NM_000143.4
RefSeq Size:	1877 bp
RefSeq ORF:	1533 bp
Locus ID:	2271
UniProt ID:	P07954
Cytogenetics:	1q43
Domains:	lyase_1
Protein Families:	Druggable Genome
Protein Pathways:	Citrate cycle (TCA cycle), Metabolic pathways, Pathways in cancer, Renal cell carcinoma
MW:	54.6 kDa

Gene Summary:

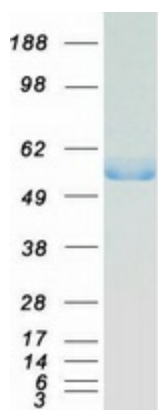
The protein encoded by this gene is an enzymatic component of the tricarboxylic acid (TCA) cycle, or Krebs cycle, and catalyzes the formation of L-malate from fumarate. It exists in both a cytosolic form and an N-terminal extended form, differing only in the translation start site used. The N-terminal 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]

Product images:


HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY FH (Cat# RC200614, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-FH(Cat# [TA500675]). Positive lysates [LY400053] (100ug) and [LC400053] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400053]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200614 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified FH protein (Cat# [TP300614]). The protein was produced from HEK293T cells transfected with FH cDNA clone (Cat# RC200614) using MegaTran 2.0 (Cat# [TT210002]).