

## Product datasheet for **RC212376**

### FMO3 (NM\_001002294) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	FMO3 (NM_001002294) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	FMO3
Synonyms:	dj127D3.1; FMOII; TMAU
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC212376 representing NM\_001002294  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGGAAGAAAGTGCCATCATTGGAGCTGGTGTGAGTGGCTTGGCCTCCATCAGGAGCTGTCTGGAAG  
 AGGGGCTGGAGCCACCTGCTTTGAGAAGAGCAATGACATTGGGGCCTGTGAAAATTTTCAGACCATGC  
 AGAGGAGGGCAGGGCTAGCATTTACAAATCAGTCTTTTCCAACCTTTCCAAAGAGATGATGTGTTCCCA  
 GACTTCCCATTTCCCGATGACTTCCCAACTTTATGCACAACAGCAAGATCCAGGAATATATCATTGCAT  
 TTGCCAAAGAAAAGAACCTCCTGAAGTACATACAATTTAAGACATTTGTATCCAGTGAAATAAACATCC  
 TGATTTTGCAACTACTGGCCAGTGGGATGTTACCACTGAAAGGGATGGTAAAAAAGAAATCGGCTGTCTTT  
 GATGCTGAATGGTTTGTCCGGACATCATGTGTATCCCAACCTACCAAAAGAGTCTTTCCAGGACTAA  
 ACCACTTTAAAGGCAAATGCTTCCACAGCAGGGACTATAAAGAACCAGGTGATTCAATGAAAGCGTGT  
 CCTGGTGGTTGGCCTGGGGAATTCGGGCTGTGATATTGCCACAGAACTCAGCCGCACAGCAGAACAGGTC  
 ATGATCAGTTCAGAAAGTGGCTCCTGGGTGATGAGCCGGGTCTGGGACAAATGGTTATCCTGGGACATGC  
 TGCTCGTCACTCGATTTGGAACCTTCTCAAGAACAATTTACCGACAGCCATCTCTGACTGGTTGTACGT  
 GAAGCAGATGAATGCAAGATTCAAGCATGAAAATATGGCTTGATGCCTTTAAATGGAGTCTGAGGAAA  
 GAGCCTGTATTTAACGATGAGCTCCAGCAAGCATTCTGTGTGGCATTGTGTCCGTAAAGCCTAACGTGA  
 AGGAATTCACAGAGACCTCGGCCATTTTGGAGGATGGGACCATATTTGAGGGCATTGACTGTGTAATCTT  
 TGCAACAGGGTATAGTTTGCCTACCCCTTCTTGATGAGTCTATCATCAAAAGCAGAAACAATGAGATC  
 ATTTTATTTAAAGGAGTATTTCTCTCTACTTGAGAAGTCAACCATAGCAGTATTGGCTTTGTCCAGT  
 CCCTTGGGGCTGCCATTTCCACAGTTGACCTCCAGTCCCGCTGGGCAGCACAAGTAAATAAGGGAACTTG  
 TACTTTGCCTTCTATGGAAGACATGATGAATGATTAATGAGAAAATGGAGAAAAAGCGCAAATGGTTT  
 GGCAAAAGCGAGACCATACAGACAGATTACATTGTTTATATGGATGAACTCTCCTCCTTATTGGGGCAA  
 AGCCCAACATCCCATGGCTGTTTCTCACAGATCCCAAATGGCCATGGAAGTTTATTTTGGCCCTTGAG  
 TCCCTACCAGTTTAGGCTGGTGGGCCAGGGCAGTGGCCAGGAGCCAGAAATGCCATACTGACCCAGTGG  
 GACCGGTCTTGAACCCATGCAGACACGAGTGGTGGGAGACTCAGAAGCCTTGCTTCTTTTCCATT  
 GGCTGAAGCTCTTGAATTCCTATTCTGTTAATCGCTGTTTTCTTGTGTTGACC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC212376 representing NM\_001002294  
 Red=Cloning site Green=Tags(s)

MGKKVAIIGAGVSGLASIRSCLEEGLEPTCFEKSNDIGGLWKFSDHAEGRASIYKSVFSNSKEMMCFP  
 DFPFPDDFPNFMHNSKIQEYIIAFAKEKLLKYIQFKTFVSSVNKHPDFATTGQWDVTTTERDGKKE SAVF  
 DAVMVC SGHHVYPNLPKESFPGLNHFKGKCFHSRDYKEPVG VFNKRVLVVGLGNSGCDIATEL SRTAEQV  
 MISSRSGSWMSRVWDNGYPWDMLLVTRFGTFLKNNLPTAISDWLYVKQMNARFKHENYGLMPLNGVLRK  
 EPVFNDEL PASILCGIVSVKPNVKEFTETSAIFEDGTIFEGIDCVIFATGYSFAYPFLDESI IKS RNNEI  
 ILFKGVFPPLLEKSTIAVIGFVQSLGAAIPTVDLQSRWAAQVIKGTCTLPSMEDMMNDINEKMEKKRWF  
 GKSETIQTDYIVYMDLSSFIGAKPNIPWFL TDPKLAMEVYFGPCSPYQFRLVGPQWPGARNAILTQW  
 DRSLKPMQTRVVGRLQKPCFFFHWLKLFAIPILLIAVFLVLT

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8001\\_f02.zip](https://cdn.origene.com/chromatograms/mk8001_f02.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001002294

**ORF Size:** 1596 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.

**RefSeq:** [NM\\_001002294.3](#)

**RefSeq Size:** 2070 bp

**RefSeq ORF:** 1599 bp

**Locus ID:** 2328

**UniProt ID:** [P31513](#)

**Cytogenetics:** 1q24.3

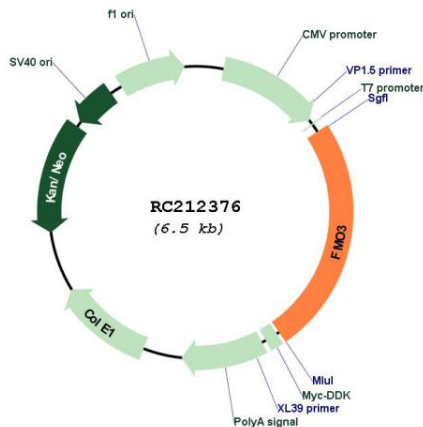
**Protein Families:** Druggable Genome, Transmembrane

**Protein Pathways:** Drug metabolism - cytochrome P450

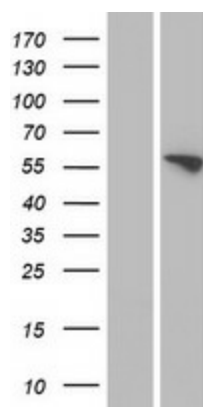
**MW:** 59.9 kDa

**Gene Summary:** Flavin-containing monooxygenases (FMO) are an important class of drug-metabolizing enzymes that catalyze the NADPH-dependent oxygenation of various nitrogen-, sulfur-, and phosphorous-containing xenobiotics such as therapeutic drugs, dietary compounds, pesticides, and other foreign compounds. The human FMO gene family is composed of 5 genes and multiple pseudogenes. FMO members have distinct developmental- and tissue-specific expression patterns. The expression of this FMO3 gene, the major FMO expressed in adult liver, can vary up to 20-fold between individuals. This inter-individual variation in FMO3 expression levels is likely to have significant effects on the rate at which xenobiotics are metabolised and, therefore, is of considerable interest to the pharmaceutical industry. This transmembrane protein localizes to the endoplasmic reticulum of many tissues. Alternative splicing of this gene results in multiple transcript variants encoding different isoforms. Mutations in this gene cause the disorder trimethylaminuria (TMAu) which is characterized by the accumulation and excretion of unmetabolized trimethylamine and a distinctive body odor. In healthy individuals, trimethylamine is primarily converted to the non odorous trimethylamine N-oxide.[provided by RefSeq, Jan 2016]

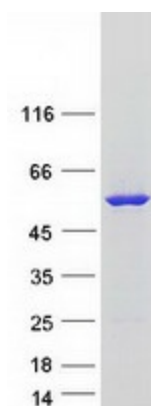
**Product images:**



Circular map for RC212376



Western blot validation of overexpression lysate (Cat# [LY424145]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212376 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified FMO3 protein (Cat# [TP312376]). The protein was produced from HEK293T cells transfected with FMO3 cDNA clone (Cat# RC212376) using MegaTran 2.0 (Cat# [TT210002]).