

Product datasheet for **RC201181**

Flavin containing monooxygenase 4 (FMO4) (NM_002022) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Flavin containing monooxygenase 4 (FMO4) (NM_002022) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Flavin containing monooxygenase 4
Synonyms:	FMO2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC201181 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCAAGAAAGTTGCAGTGATTGGAGCTGGTGTGAGTGGCCTCTCCTCCATCAATGCTGTGTGGATG
 AGGACCTGGAGCCACCTGCTTTGAGAGAAGTGATGACATTGGGGGATTATGGAAGTTTACTGAATCTTC
 CAAAGATGGGATGACCAGGGTCTATAAGTCATTAGTGACAAATGTCTGTAAGGAAATGTCATGTTACAGT
 GACTTCCCTTTCCACGAAGATTATCCTAATTTTCATGAACCATGAAAAATTTGGGACTATCTCCAAGAA
 TTGCTGAGCACTTTGACCTCCTGAAATACATTCAGTTTAAAGCCACTGTGTGCAGCATAACGAAGCGTCC
 AGACTTCTCCGAACTGGTCAGTGGGATGTTGTACAGAGACAGAGGGCAAGCAAATAGAGCTGTCTTT
 GATGCTGTTATGGTTTGCAGTGGACATTCCTGAATCCCATTACCTTTGGAAGCCTTCTCTGGAATTC
 ATAAGTTTAAAGGTCAGATCCTGCATAGTCAAGAGTACAAGATCCAGAAGGCTTTCAGGGCAAACGCGT
 CTTGGTGATTGGTCTTGGGAACACTGGAGGAGACATTGCTGTGGAACCTCAGTCGAACGGCAGCTCAGGTA
 CTCTCAGTACTAGAAGTGGTACCTGGGTTCTTGGGCGCTCTTCAGATTGGGGCTATCCTTATAATATGA
 TGGTTACAAGAAGATGCTGTAGTTTTATTGCACAAGTTCTGCCTTACGTTTTCTAAACTGGATTCAAGA
 AAGGAAGTTGAATAAGAGATTTAATCATGAGGATTATGGATTAAGTATTACCAAAGGGAAAAAGCAAAA
 TTCATTGTGAATGATGAGCTGCCAACTGTATCCTCTGTGGGCAATCACTATGAAAACAGCGTGATTG
 AATTTACAGAAACCTCTGCTGTCTTTGAAGATGGGACAGTGAAGAAAACATTGATGTTGTGATCTTAC
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 CTATAACAAGCAAGTCTTCCCTTAAACCTAGAGAGAGCGACATTAGCCATCATCGGCCTTATCGGCCTTA
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 GATACCTCCATCCAAAAATTGATGATGGAGGCTACTGAAAAGGAACAGCTCATTAAAAGGGGAGTGTTT
 AAAGACACCAGCAAAGACAAATTTGACTACATTGCCTACATGGATGATATCGCTGCCTGCATAGGCACAA
 AGCCCAGCATCCCACTTCTGTTCTCAAGGATCCAGACTAGCTTGGGAAGTTTTCTTTGGACCATGTAC
 TCCTTATCAGTACCGCTCATGGGCCCTGGAAAATGGGATGGAGCCAGAAATGCCATCCTGACCCAGTGG
 GACAGAACATTGAAACCTTTAAAACCTCGAATTGTCCCTGATTCTCCAAGCCTGCCTCCATGTCACATT
 ATTTAAAAGCCTGGGGGACCTGTCTACTTGCCTCTCTTCTACTTATCTGAAATCTTCACTTTTCTT
 GAAATTTGGTGAGAGATAAACTACAGGACAGAATGTCCCCTACCTAGTAAGTCTTTGGCGAGGA

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC201181 protein sequence
 Red=Cloning site Green=Tags(s)

MAKKVAVIGAGVSGLSSIKCCVDELDLEPTCFERSDDIGLWKFTESSKDGMRVYKSLVTNVCKEMSCYS
 DFPFHEDYPNFMNHEKFWDYLQFEAEHFDLLKYIQFKTTVCSITKRPDFSETGQWDVVTEETEGKQNRVAF
 DAVMVCTGHFLNPHLPLEAFPGIHKFKGQILHSQYKIQEYKIPQKRVLVIGLNTGGDIAVELSRATAAQV
 LLSTRGTWVLRSSDWGYPNMMVTRRCCSFIQVLPFRFLNWIQERKLNKRFNHEDYGLSITKGGKAK
 FIVNDELPCILCGAITMKTSVIEFTETSAVFEDGTVEENIDVVIFTTGYTFSPFFEEPLKSLCTKKIF
 LYKQVFLNLERATLAIIGLIGLKGSIILSGTELQARWVTRVFKGLCKIPPSQKLMMEATEKEQLIKRGVF
 KDTSKDKFDYIAYMDDIAACIGTKPSIPLFLKDPRLAWEVFFGPCTPYQYRLMGPQKWDGARNAILTQW
 DRTLKPLKTRIVPSSKPAASMSHYLKAWGAPVLLASLLLICKSSLFLKLVDRDKLQDRMSPYLVSLWRG

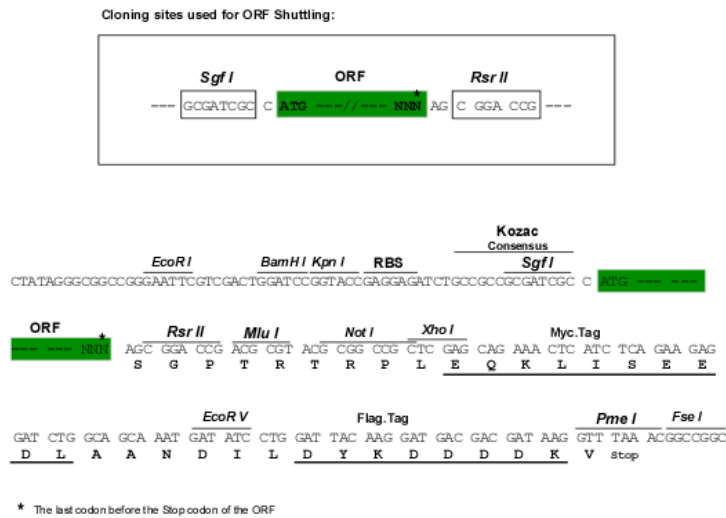
SGP**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6190_a04.zip

Restriction Sites:

Sgfl-RsrII

Cloning Scheme:


ACCN: NM_002022

ORF Size: 1674 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_002022.3](#)

RefSeq Size: 2148 bp

RefSeq ORF: 1677 bp

Locus ID: 2329

UniProt ID: [P31512](#)

Cytogenetics: 1q24.3

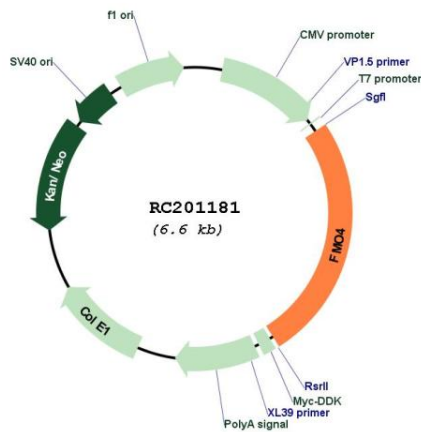
Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Drug metabolism - cytochrome P450

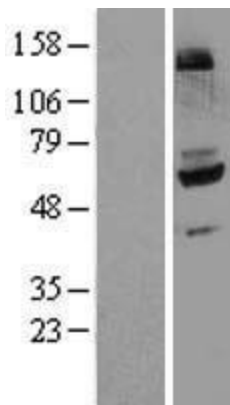
MW: 63.3 kDa

Gene Summary: Metabolic N-oxidation of diet-derived amino-trimethylamine (TMA) is mediated by flavin-containing monooxygenase and is subject to an inherited FMO3 polymorphism in man. This results in a small subpopulation with reduced TMA N-oxidation capacity and causes fish odor syndrome (Trimethylaminuria). Three forms of the enzyme are encoded by genes clustered in the 1q23-q25 region. Flavin-containing monooxygenases are NADPH-dependent flavoenzymes that catalyzes the oxidation of soft nucleophilic heteroatom centers in drugs, pesticides, and xenobiotics. [provided by RefSeq, Jan 2015]

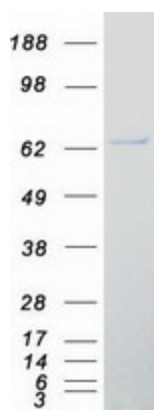
Product images:



Circular map for RC201181



Western blot validation of overexpression lysate (Cat# [LY400738]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201181 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified FMO4 protein (Cat# [TP301181]). The protein was produced from HEK293T cells transfected with FMO4 cDNA clone (Cat# RC201181) using MegaTran 2.0 (Cat# [TT210002]).