

## Product datasheet for **RC223780**

### **FADS2 (NM\_004265) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	FADS2 (NM_004265) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	FADS2
Synonyms:	D6D; DES6; FADSD6; LLCDL2; SLL0262; TU13
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC223780 representing NM\_004265  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGGGAAGGAGGGAACCAGGGCGAGGGGCCGCCGAGCGCGAGGTGTCGGTGCCACCTTCAGCTGGG  
 AGGAGATTCAGAAGCATAACCTGCGCACCGACAGGTGGCTGGTCAATTGACCGCAAGGTTTACAACATCAC  
 CAAATGGTCCATCCAGCACCCGGGGGCCAGCGGGTCATCGGGCACTACGCTGGAGAAGATGCAACGGAT  
 GCCTTCGCGCCTTCCACCCTGACCTGGAATTCGTGGCAAGTCTTGAAACCCCTGCTGATTGGTGAAC  
 TGGCCCCGGAGGAGCCCAGCCAGGACCAGGCAAGAAGTCAAAGATCACTGAGGACTTCCGGGCCCTGAG  
 GAAGACGGCTGAGGACATGAACCTGTTCAAGACCAACCACGTGTTCTTCTCTCTCTGGCCACATC  
 ATCGCCCTGGAGAGCATTGCATGGTTCCTGTCTTTACTTTGGCAATGGCTGGATTCTACCTCATCA  
 CGGCTTTGTCCTTGTCTACCTCTCAGGCCAAGCTGGATGGCTGCAACATGATTATGGCCACCTGTCTGT  
 CTACAGAAAACCAAGTGAACACCTTGTCCACAAATTCGTATTGGCCACTTAAAGGGTGCCTCTGCC  
 AACTGGTGAATCATCGCCACTTCCAGCACCCAGCCAAGCCTAACATCTTCCACAAGGATCCCGATGTGA  
 ACATGCTGCACGTGTTTGTCTGGGCGAATGGCAGCCATCGAGTACGGCAAGAAGAAGTGAATACCT  
 GCCCTACAATCACCAGCAGAACTTCTTCTGATTGGGCCGCCGCTGCTCATCCCATGTATTTCCAG  
 TACCAGATCATATGACCATGATCGTCCATAAGAACTGGGTGGACCTGGCCTGGGCCGTCAGCTACTACA  
 TCCGGTCTTTCATCACCTACATCCCTTTCTACGGCATCTGGGAGCCCTCCTTTTCTCACTTCATCAG  
 GTTCTGGAGAGCCACTGGTTTGTGTGGTCCACAGATGAATCACATCGTCATGGAGATTGACCAGGAG  
 GCCTACCGTGACTGGTTCAGTAGCCAGCTGACAGCCACCTGCAACGTGGAGCAGTCTTCTTCAACGACT  
 GGTTCAAGTGGACACCTTAACTTCCAGATTGAGCACCCCTTCCCCACCATGCCCGGCACAACATACA  
 CAAGATCGCCCCGCTGGTGAAGTCTATGTGCCAAGCATGGCATTGAATACCAGGAGAAGCCGCTACTG  
 AGGGCCCTGCTGGACATCATCAGGTCCCTGAAGAAGTCTGGGAAGCTGTGGCTGGACGCCTACCTTCACA  
 AA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC223780 representing NM\_004265  
 Red=Cloning site Green=Tags(s)

MGKGGNQGEAAEREVSVPFWSWEEIQKHNLRTDRWLVIDRKVYNITKWSIQHPGGQRVIGHYAGEDATD  
 AFRAFHPDLEFVGKFLKPLLI GELAPEEPSQDHGKNSKITEDFRALRKTAE DMNLFKTNHVFFLLLLAHI  
 IALESIWFVTFYFNGWIPTLITAFVLATSQAQAGWLQHDYGHLSVYRKPKNHNLVHKFVIGHLKGASA  
 NWWNHRHFQHHAKPNIFHKDPDVNMLHVFVLGEWQPIEYKKKLKYLPYNHQHEYFFLIGPPLLI PMYFQ  
 YQIIMTIVHKNWVDLAWAVSYYIRFFITYIPFYGILGALLFLNFI RFLSHWFVWVTQMNHIVMEIDQE  
 AYRDWSSQLTATCNVEQSFFNDWFSGHLNFQIEHHLFPTMPRHNLHKIAPLVKSLCAKHGIEYQEKP LL  
 RALLDIIRSLKSGKLWLDAYLHK

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6825\\_a01.zip](https://cdn.origene.com/chromatograms/mk6825_a01.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

**ACCN:** NM\_004265

**ORF Size:** 1332 bp

**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 [custsupport@origene.com](mailto:custsupport@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).

- 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.

**Note:** Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

**RefSeq:** [NM\\_004265.4](#)

**RefSeq Size:** 3149 bp

**RefSeq ORF:** 1335 bp

**Locus ID:** 9415

**UniProt ID:** [O95864](#)

**Cytogenetics:** 11q12.2

**Domains:** heme\_1, FA\_desaturase

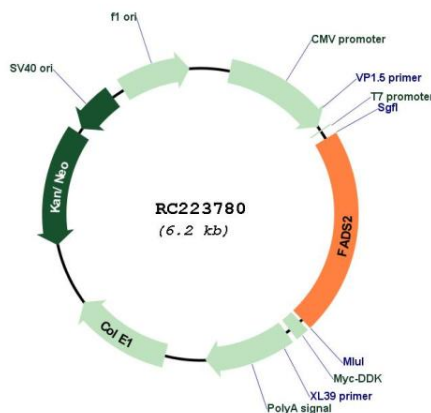
**Protein Families:** Transmembrane

**Protein Pathways:** alpha-Linolenic acid metabolism, Biosynthesis of unsaturated fatty acids, PPAR signaling pathway

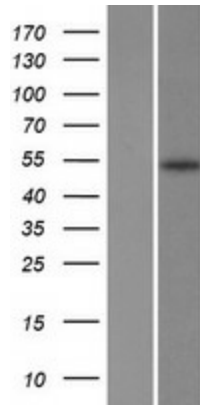
**MW:** 52.1 kDa

**Gene Summary:** The protein encoded by this gene is a member of the fatty acid desaturase (FADS) gene family. Desaturase enzymes regulate unsaturation of fatty acids through the introduction of double bonds between defined carbons of the fatty acyl chain. FADS family members are considered fusion products composed of an N-terminal cytochrome b5-like domain and a C-terminal multiple membrane-spanning desaturase portion, both of which are characterized by conserved histidine motifs. This gene is clustered with family members at 11q12-q13.1; this cluster is thought to have arisen evolutionarily from gene duplication based on its similar exon/intron organization. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jul 2013]

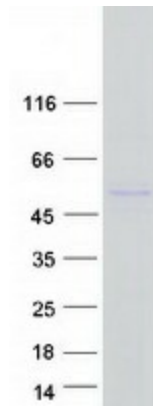
### Product images:



Circular map for RC223780



Western blot validation of overexpression lysate (Cat# [LY418107]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223780 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified FADS2 protein (Cat# [TP323780]). The protein was produced from HEK293T cells transfected with FADS2 cDNA clone (Cat# RC223780) using MegaTran 2.0 (Cat# [TT210002]).