

## Product datasheet for **MG207139**

### Fads1 (NM\_146094) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Fads1 (NM_146094) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Fads1
Synonyms:	0710001O03Rik; A930006B21Rik; AI317215; DSD
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG207139 representing NM\_146094  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGCTCCCGACCCGGTCCGACCCTGGCCCGCCTCCGCCAGCTCCGCCAAACGCGCTACTTTACTT  
 GGGAGGAGGTGGCGCAGCGCTCCGGGCGGAGAAGGAGCGATGGCTCGTGATCGACCGGAAGGTGTACAA  
 CATCAGCGACTTCAGCCGCCACCAGGGGGCTCCCGGTCATCAGCCACTACCGGGTCAGGATGCC  
 ACGGATCCTTTTGTGGCATTCCACATCAACAAGGGTCTTGTGAGAAAGTATGAACTCTTCTGATTG  
 GAGAGTGGTCCGGAGCAACCCAGCTTTGAACCCACCAAGAATAAAGCGCTAACTGATGAATCCGGGA  
 GCTGCGGGCCACAGTAGAGCGAATGGCCCTCATGAAGGCCAACCCCTTCTTCTGGTCTACCTGCTT  
 CACATCCTGCTGGATGTGGTGCCTGGCTCACCTTTGGATCTTTGGAACCTCCTTGGTGCCCTTCA  
 TCCTCTGTGCAGTACTGCTCAGTACAGTTCAGGCTCAGGCAGTTGGCTACAGCATGACTTTGGCACCT  
 GTCAGTCTTTGGCACCTCGACATGGAATCACCTGCTACATCATTTTGTGATTGGCCACCTGAAGGGGCC  
 CCCGCCAGCTGGTGAACCACATGCATTTCCAGCACCATGCCAAGCCTAACTGCTCCCGCAAGGACCCCG  
 ATATCAACATGCACCCCTCTTCTTCGCCCTGGGGAAGGTCTTCTGTGGAGCTCGGGAGGAAAAGAA  
 GAAGCACATGCCATACAACCATCAGCACAACTTCTTCTCATCGGACCCCGAGCCTTGTGCCTCTA  
 TACTTCCAGTGGTATATTTTCTATTTTGTGGTTACGCGGAAGAAATGGCTGGACTTGGCCTGGATGCTCA  
 GCTTCTATGCCCGCATCTTCTTCACTTACATGCCGCTGCTGGGGCTGAAAGGCTTCTGGGCCTTTTCTT  
 CATTGTGAGGTTCTGAAAGCAACTGGTTTGTGTGGTGACACAGATGAACCATATCCCATGCACATT  
 GATCACGACCGAATGTGGACTGGTCTCCACCAGCTGCAGGCAACCTGCAACATTACCAATCAGCCT  
 TCAACAACCTGGTTCAGTGGCCACCTAAATTTCCAGATTGAACACCACCTTCCCCACCATGCCGCGCA  
 CAACTACCACAAGGTGGCACCCCTAGTACAATCCCTGTGCGCCAAGTACGGCATCAAGTATGAGTCCAAG  
 CCCCTGCTCACAGCCTTCGCGGACATTGTTTACTCCCTGAAGGAGTCAGGGCAACTCTGGTTGGACGCT  
 ACCTTCACCAA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>MG207139 representing NM\_146094  
 Red=Cloning site Green=Tags(s)

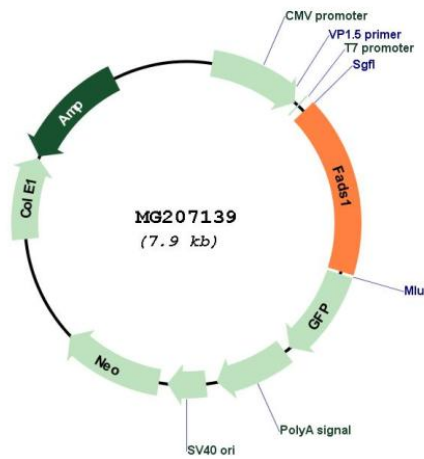
MAPDPVPTPGPASAQLRQTRYFTWEEVAQRSGREKERWLVIDRKVYNI SDFSRRHPPGSRVISHYAGQDA  
 TDPFVAFHINKGLVRKYMNSLLIGELAPEQPSFEPTKNKALTDEFREL RATVERMGLMKANHLFFLVYLL  
 HILLLLDVAAWLTLWIFGTSLVPFILCAVLLSTVQAQAGWLQHDFGHL SVFGTSTWNHLLHHFVIGHLKGA  
 PASWWNHMHFQHHAKPNCFRKDPDINMHPLFFALGKVL PVELGREKKKHPYNHQHYFFLIGPPALLPL  
 YFQWYIFYFVVRKKWLDLAWMLSFYARIFFTYMPLLGLKGFLGLFFIVRFLESNWFVWVTQMNHIPMHI  
 DHDRNVDWVSTQLQATCNIHQSAFNWFSGLHNFQIEHHLFPTMPRHNYHKVAPLVQSLCAKYGIKYESK  
 PLLTAFADIVYSLKESGQLWLDAYLHQ

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**Plasmid Map:**


ACCN: NM\_146094

ORF Size: 1341 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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_146094.1</a></u> , <u><a href="#">NP_666206.1</a></u>
<b>RefSeq Size:</b>	3408 bp
<b>RefSeq ORF:</b>	1344 bp
<b>Locus ID:</b>	76267
<b>UniProt ID:</b>	<u><a href="#">Q920L1</a></u>
<b>Cytogenetics:</b>	19 A
<b>Gene Summary:</b>	Acts as a front-end fatty acyl-coenzyme A (CoA) desaturase that introduces a cis double bond at carbon 5 located between a preexisting double bond and the carboxyl end of the fatty acyl chain. Involved in biosynthesis of highly unsaturated fatty acids (HUFA) from the essential polyunsaturated fatty acids (PUFA) linoleic acid (LA) (18:2n-6) and alpha-linolenic acid (ALA) (18:3n-3) precursors. Specifically, desaturates dihomo-gamma-linoleoate (DGLA) (20:3n-6) and eicosatetraenoate (ETA) (20:4n-3) to generate arachidonate (AA) (20:4n-6) and eicosapentaenoate (EPA) (20:5n-3), respectively (Probable). As a rate limiting enzyme for DGLA (20:3n-6) and AA (20:4n-6)-derived eicosanoid biosynthesis, controls the metabolism of inflammatory lipids like prostaglandin E2, critical for efficient acute inflammatory response and maintenance of epithelium homeostasis. Contributes to membrane phospholipid biosynthesis by providing AA (20:4n-6) as a major acyl chain esterified into phospholipids. In particular, regulates phosphatidylinositol-4,5-bisphosphate levels, modulating inflammatory cytokine production in T-cells (PubMed:22534642). Also desaturates (11E)-octadecenoate (trans-vaccenoate)(18:1n-9), a metabolite in the biohydrogenation pathway of LA (18:2n-6) (By similarity).[UniProtKB/Swiss-Prot Function]