

## Product datasheet for **MG218135**

### Ffar2 (NM\_001168511) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Ffar2 (NM\_001168511) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Ffar2  
**Synonyms:** GPCR43; Gpr43  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG218135 representing NM\_001168511  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGACCCAGACTGGCACAGTTCCTTGATCCTCACGGCCTACATCCTCATCTTTCTTACTGGGCTCCCTG  
 CCAACCTGCTGGCCCTGCGGGCCTTCATGGGCCGGGTTGCCAGCCTCAGCCTGCCCTGTGCACATCCT  
 CCTGCTTAATCTGACCCTGGCGGACTTGCTCCTGTTGCTGCTGCTGCCCTCCGGATCGTGAAGCAGCA  
 TCCAACCTCCGCTGGTACCTACCAAAGATCGTGTGCGCGCTGACAGGCTTCGGCTTCTACAGCAGCATCT  
 ACTGCAGCACGTGGCTGCTGGCGGCATCAGCATGGAACGCTACCTGGGAGTGGCCTTCCGGTGCAGTA  
 CAAGTTATCCCGCCGGCCACTGTATGGAGTGATCGCTGCTCTGGTGGCCTGGATCATGTCCTTTGGCCAC  
 TGCACCATCGTCATCATCGTTACAGTACCTGAACTCAACTGAGCAGGTGGGCACTGAGAACCAAATAACCT  
 GCTACGAGAACTTCAACCAAGAGCAGCTGGATGTGGTACTGCCGTACGACTGGAGCTGTGCCTGGTCTCT  
 GTTTTTCGTTCATGCGAGTACCATCTTCTGTTATTGGCGCTTCGTGTGGATCATGCTCACGCAGCCC  
 CACGTTGGGGCTCAGAGGCGACGCCGGCAGTGGGCTGGCTGTTGTGACGCTTCTTAATTTCTGGTGT  
 GCTTTGGACCCTACAACATGTCCACCTGGTGGGTTCTACCTGAGGCAGAGCCCTCGTGGCGGGTGA  
 GGCTGTGGTGTTCAGTTCCTCAATGCCAGCCTGGATCCATTATTGTTCTACTTCTCCTCCTCCGTGGT  
 CGCAGAGCTTTTGGAAAGGTTTGTACTGATCCGCAATCCTGCCTCCTATGCTGGGCAGGGGAGCCA  
 AAGAGACAGTGGAGGGGACCAAGATGGACAGGGGTGGAAGTCAAGCAGAAGGGGTACAGAGTTCTGAATT  
 TGTACCCGAG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >MG218135 representing NM\_001168511  
 Red=Cloning site Green=Tags(s)

MTPDWHSSLILTAYILIFLTGLPANLLALRAFMRVRQPQPAPVHILLNLTADLLLLLLLPFRIVEAA  
 SNFRWYLPKIVCALTGFGFYSSICYSTWLLAGISMERYLGVAFPVQYKLSRRPLYGVIAALVAVIMSF  
 GHCTIVIIQYLNSTEQVGTENQITCYENFTQEQLDVVLPVRLCLVLPVMAVTIFCYWRFVWIMLTQP  
 HVGAQRRRRRAVGLAVVTLNLFVCFGPYNMSHLVGFYLRQSPSWRVEAVVSSLNASLDPLLFYFSSSVV  
 RRAF GKLLLLIRNPASSMLGRGAKETVEGTMKDRGGSQAEGVQSSEFVTE

TRTRPLE - GFP Tag - V

**Restriction Sites:**

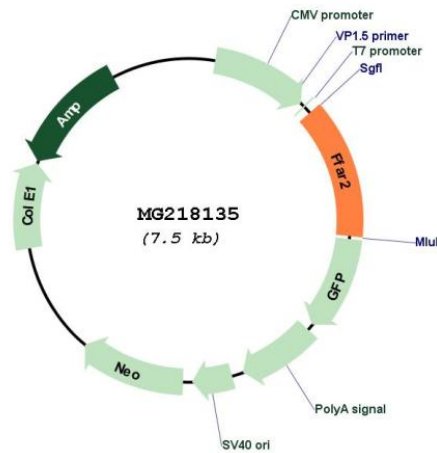
SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



**Plasmid Map:**



**ACCN:** NM\_001168511

**ORF Size:** 990 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	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>	<a href="#">NM_001168511.1</a> , <a href="#">NP_001161983.1</a>
<b>RefSeq Size:</b>	1913 bp
<b>RefSeq ORF:</b>	993 bp
<b>Locus ID:</b>	233079
<b>UniProt ID:</b>	<a href="#">Q8VCK6</a>
<b>Cytogenetics:</b>	7 B1

**Gene Summary:**

G protein-coupled receptor that is activated by a major product of dietary fiber digestion, the short chain fatty acids (SCFAs), and that plays a role in the regulation of whole-body energy homeostasis and in intestinal immunity. In omnivorous mammals, the short chain fatty acids acetate, propionate and butyrate are produced primarily by the gut microbiome that metabolizes dietary fibers. SCFAs serve as a source of energy but also act as signaling molecules. That G protein-coupled receptor is probably coupled to the pertussis toxin-sensitive, G(i/o)-alpha family of G proteins but also to the Gq family (PubMed:23589301). Its activation results in the formation of inositol 1,4,5-trisphosphate, the mobilization of intracellular calcium, the phosphorylation of the MAPK3/ERK1 and MAPK1/ERK2 kinases and the inhibition of intracellular cAMP accumulation. May play a role in glucose homeostasis by regulating the secretion of GLP-1, in response to short-chain fatty acids accumulating in the intestine (PubMed:22190648, PubMed:23589301). May also regulate the production of LEP/Leptin, a hormone acting on the central nervous system to inhibit food intake (PubMed:20399779). Finally, may also regulate whole-body energy homeostasis through adipogenesis regulating both differentiation and lipid storage of adipocytes (PubMed:16123168, PubMed:23589301). In parallel to its role in energy homeostasis, may also mediate the activation of the inflammatory and immune responses by SCFA in the intestine, regulating the rapid production of chemokines and cytokines (PubMed:23665276). May also play a role in the resolution of the inflammatory response and control chemotaxis in neutrophils (PubMed:19917676, PubMed:19865172). In addition to SCFAs, may also be activated by the extracellular lectin FCN1 in a process leading to activation of monocytes and inducing the secretion of interleukin-8/IL-8 in response to the presence of microbes. [UniProtKB/Swiss-Prot Function]