

## Product datasheet for **RN214546**

### **Ffar2 (NM\_001005877) Rat Untagged Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Ffar2 (NM_001005877) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Ffar2
Synonyms:	Gpr43
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>RN214546 representing NM_001005877 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGACCCAGACTGGCACAGTTCCTTGATCCTCACGGCCTACATCCTCATCTTTCTACTGGGCTCCCTG  
CCAACCTGCTGGCCCTGCGGGCCTTCGTGAGCCGGGTTGCCAGCCCCAGCCTGCACCCGTGCACATCCT  
CCTGCTTAATCTGACCCTGGCGGACTTGCTGTTGTTGCTGCTGCTGCCCTCCGGATCGTGAAGCTGCA  
TCCAACCTCCGCTGGTACCTACCAAAGATCGTGTGCGCGCTCACGGGCTTCGGCTTCTACAGCAGTATCT  
ACTGCAGCACGTGGCTGCTGGCGGGCATCAGCATAGAACGCTACCTGGGAGTGGCTTTCCCGGTGCAGTA  
CAAGCTATCCCGCCGGCCACTGTACGGAGTGATCGCTGCTCTGGTGGCCTGGATCATGTCCTTTGGCCAT  
TGCACCATCGTCATCATCGTTACAGTACCTGAACTCAACCGAGCAGGTGGGCACCGAGAACCAATACCT  
GCTATGAGAACTTCAACCAAGCGCAGCTGGATGTGGTGTGCCCCGTGCGACTGGAGCTGTGCCTGGTCTCT  
CTTTTTCGTCCCATGACAGTACCATCTTCTGCTATTGGCGCTTTGTATGGATCATGCTCACACAGCCC  
CATGTTGGGGCTCAGAGGCGACGCCGGGCGTGGGCTGGCTGTGGTACGCTTCTTAATTTCTGGTGT  
GCTTTGGACCTTACAACATGTCCACCTGGTGGGTTCCACTTGAGGCAGAGTCCCTCGTGGCGGGTGA  
GGCTGTGGTGTTCAGTTCCTCAATGCCAGCCTGGACCCTCTGCTATTCTACTTCTCCTCCTCCGTGGTA  
CGCAGGGCCTTCGGGAAAGGTTTGTACTACTCCGCAATCCCGGCTCCTATGCTGGCAGGGGAGCCG  
AAGAGACAGTGGAGGGGACCAAGACAGACAGGGGTGGGAGTCAAACAGAAGGGGCACAGAGCTCTGACTT  
TGTCACCGAGTGA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Chromatograms: [https://cdn.origene.com/chromatograms/ja2222\\_e02.zip](https://cdn.origene.com/chromatograms/ja2222_e02.zip)



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<b>Restriction Sites:</b>	Sgfl-Mlul
<b>ACCN:</b>	NM_001005877
<b>Insert Size:</b>	993 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).</p>
<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>NM_001005877.1, NP_001005877.1</u>
<b>RefSeq Size:</b>	993 bp
<b>RefSeq ORF:</b>	993 bp
<b>Locus ID:</b>	292794
<b>UniProt ID:</b>	<u>Q76E16</u>
<b>Cytogenetics:</b>	1q21

**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. May also regulate the production of LEP/Leptin, a hormone acting on the central nervous system to inhibit food intake. Finally, may also regulate whole-body energy homeostasis through adipogenesis regulating both differentiation and lipid storage of adipocytes. 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. May also play a role in the resolution of the inflammatory response and control chemotaxis in neutrophils. 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]