

**FFAR2 / GPR43 Antibody (Internal)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS10405**

**Specification**

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**FFAR2 / GPR43 Antibody (Internal) - Product Information**

Application	IHC
Primary Accession	<a href="#">O15552</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	37kDa KDa

**FFAR2 / GPR43 Antibody (Internal) - Additional Information**

**Gene ID** 2867

**Other Names**

Free fatty acid receptor 2, G-protein coupled receptor 43, FFAR2, FFA2, GPCR43, GPR43

**Target/Specificity**

Human GPR43. BLAST analysis of the peptide immunogen showed no homology with other human proteins.

**Reconstitution & Storage**

Long term: -70°C; Short term: +4°C

**Precautions**

FFAR2 / GPR43 Antibody (Internal) is for research use only and not for use in diagnostic or therapeutic procedures.

**FFAR2 / GPR43 Antibody (Internal) - Protein Information**

**Name** FFAR2

**Synonyms** FFA2, GPCR43, GPR43

**Function**

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:<a href="http://www.uniprot.org/citations/12496283" target="\_blank">12496283</a>, PubMed:<a href="http://www.uniprot.org/citations/12711604" target="\_blank">12711604</a>, PubMed:<a href="http://www.uniprot.org/citations/23589301" target="\_blank">23589301</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/21037097" target="\_blank">21037097</a>). Among SCFAs, the fatty acids containing less than 6 carbons, the most potent activators are probably acetate, propionate and butyrate (PubMed:<a href="http://www.uniprot.org/citations/12496283" target="\_blank">12496283</a>, PubMed:<a href="http://www.uniprot.org/citations/12711604" target="\_blank">12711604</a>). Exhibits a SCFA-independent constitutive G protein-coupled receptor activity (PubMed:<a href="http://www.uniprot.org/citations/23066016" target="\_blank">23066016</a>).

#### Cellular Location

Cell membrane; Multi-pass membrane protein

#### Tissue Location

Expressed at relatively high levels in peripheral blood leukocytes and, to lesser extent, in spleen

#### Volume

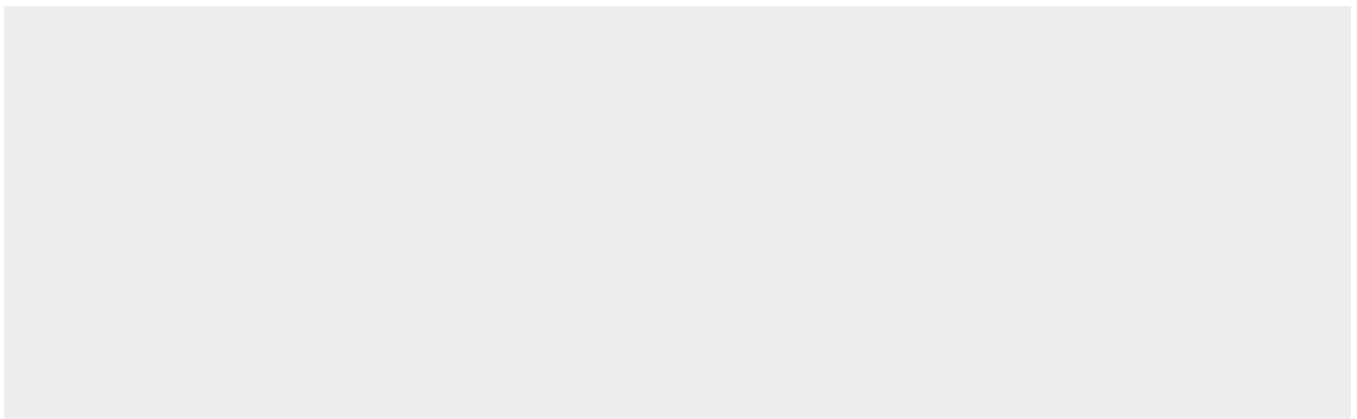
50 µl

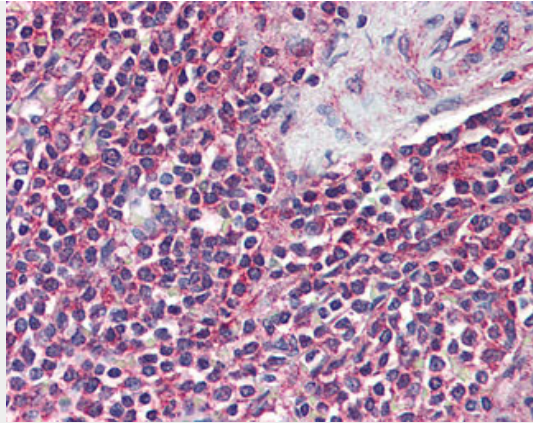
### FFAR2 / GPR43 Antibody (Internal) - Protocols

Provided below are standard protocols that you may find useful for product applications.

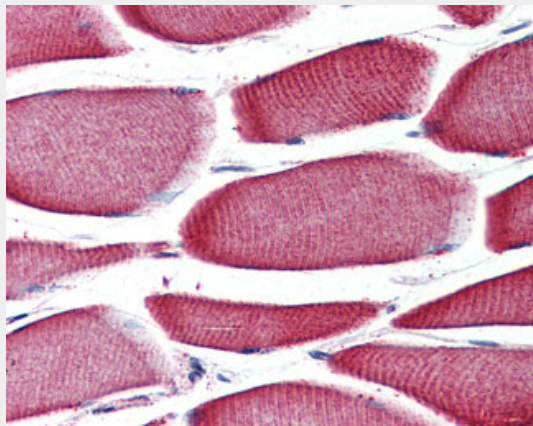
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### FFAR2 / GPR43 Antibody (Internal) - Images





Anti-GPR43 antibody ALS10405 IHC of human spleen.



Anti-GPR43 antibody ALS10405 IHC of human skeletal muscle.

### **FFAR2 / GPR43 Antibody (Internal) - Background**

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:12496283, PubMed:12711604, 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 (PubMed:21037097). Among SCFAs, the fatty acids containing less than 6 carbons, the most potent activators are probably acetate, propionate and butyrate (PubMed:12496283, PubMed:12711604). Exhibits a SCFA- independent constitutive G protein-coupled receptor activity (PubMed:23066016).

**FFAR2 / GPR43 Antibody (Internal) - References**

- Sawzdargo M., et al. *Biochem. Biophys. Res. Commun.* 239:543-547(1997).  
Grimwood J., et al. *Nature* 428:529-535(2004).  
Kaighin V.A., et al. Submitted (DEC-2007) to the EMBL/GenBank/DDBJ databases.  
Nilsson N.E., et al. *Biochem. Biophys. Res. Commun.* 303:1047-1052(2003).  
Brown A.J., et al. *J. Biol. Chem.* 278:11312-11319(2003).