10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

FFAR2 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP18578b

Product Information

Application	WB, E
Primary Accession	O15552
Other Accession	NP_005297.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35768
Calculated MW	37144
Antigen Region	286-315

Additional Information

Gene ID	2867
Other Names	Free fatty acid receptor 2, G-protein coupled receptor 43, FFAR2, FFA2, GPCR43, GPR43
Target/Specificity	This FFAR2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 286-315 amino acids from the C-terminal region of human FFAR2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FFAR2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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: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).
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

Background

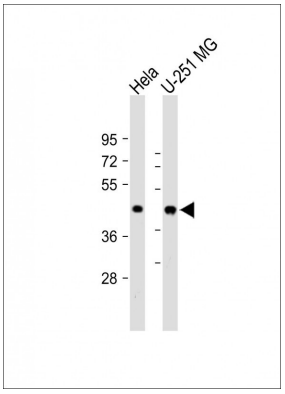
This gene encodes a member of the GP40 family of G protein-coupled receptors that are clustered together on chromosome 19. The encoded protein is a receptor for short chain free fatty acids and may be involved in the inflammatory response and in regulating lipid plasma levels.

References

Swaminath, G., et al. FEBS Lett. 584(19):4208-4214(2010)
Hatanaka, H., et al. Cancer Sci. 101(1):54-59(2010)
Stoddart, L.A., et al. Pharmacol. Rev. 60(4):405-417(2008)
Swaminath, G. Arch. Pharm. (Weinheim) 341(12):753-761(2008)
Hirasawa, A., et al. Biol. Pharm. Bull. 31(10):1847-1851(2008)

Images

All lanes : Anti-FFAR2 Antibody (C-term) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: U-251 MG whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size :37 kDa



Blocking/Dilution buffer: 5% NFDM/TBST.