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GPR40 Rabbit pAb

Catalog # AP98604

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O14842
Other Accession	O14842
Reactivity	Human
Predicted	Rat, Pig, Mouse, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31457
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GPR40
Epitope Specificity	121-220/300
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the G-protein coupled receptor 1 family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	G protein coupled receptors provide attractive targets for drug therapy due to the sheer size and diversity of ligands within this receptor family. G protein-coupled receptor 40 (GPR40) functions as a cell-surface receptor for long-chain free fatty acids (FFAs). FFAs provide an important energy source, but also function as signaling molecules in various pathways, notably the process of insulin secretion. In pancreatic tissue, the interaction of long chain FFAs with GPR40 amplifies glucose-stimulated insulin secretion from beta cells, suggesting a possible role for GPR40 in the treatment of diabetes associated with insulin-deficiency. Specifically, the Arg211His polymorphism in the GPR40 gene may contribute to the variation of insulin secretory capacity in Japanese men. Also, GPR40 may be involved in the control of breast cancer cell growth by fatty acids and, therefore, provide a link between fat and cancer.

Additional Information

Gene ID	2864
Other Names	FFA1R; GPCR40; GPR40; FFAR1_HUMAN; FFAR1; G-protein coupled receptor 40; FFAR1_MOUSE; FFAR1_RAT; free fatty acid receptor 1; G protein-coupled receptor 40
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name	FFAR1
Synonyms	GPR40
Function	G protein-coupled receptor for medium and long chain saturated and unsaturated fatty acids that plays an important role in glucose homeostasis. Fatty acid binding increases glucose-stimulated insulin secretion, and may also enhance the secretion of glucagon-like peptide 1 (GLP-1). May also play a role in bone homeostasis; receptor signaling activates pathways that inhibit osteoclast differentiation (By similarity). Ligand binding leads to a conformation change that triggers signaling via G proteins that activate phospholipase C, leading to an increase of the intracellular calcium concentration. Seems to act through a G(q) and G(i)-mediated pathway. Mediates the anti-inflammatory effects of omega-3 polyunsaturated fatty acids (PUFAs) via inhibition of NLRP3 inflammasome activation.
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Detected in brain and pancreas. Detected in pancreatic beta cells.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.