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

GPBAR1 Rabbit pAb

GPBAR1 Rabbit pAb
Catalog # AP59093

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8TDU6
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	35248
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GPCR TGR5/GPBAR1
Epitope Specificity	5-100/330
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane.
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	The G protein-coupled receptor TGR5 is a 330-amino acid protein that is almost universally expressed in human tissues including heart, skeletal muscle, spleen, kidney, liver, small intestine, placenta, and leukocytes, but not in brain, colon (without mucosa), thymus, or lung. TGR5 is sensitive to bile acids and responds through a significant mechanism that coordinates energy homeostasis. Bile acids activate mitogen-activated protein (MAP) kinase pathways, specifically induce TGR5 internalization, promote an increase of guanosine 5'-O-3-thio-triphosphate binding in membrane fractions, and cause rapid intracellular cAMP production. Bile acids also provoke TGR5 to suppress macrophage functions. TGR5-controlled signaling pathways may be good candidates for drug targets to treat common metabolic diseases, such as obesity, type II diabetes, hyperlipidemia, and atherosclerosis.

Additional Information

Gene ID	151306
Other Names	G-protein coupled bile acid receptor 1, G-protein coupled receptor GPCR19, hGPCR19, Membrane-type receptor for bile acids, M-BAR, hBG37, BG37, GPBAR1, TGR5
Target/Specificity	Ubiquitously expressed. Expressed at higher level in spleen and placenta. Expressed at lower level in other tissues. In digestive tissues, it is expressed in stomach, duodenum, ileocecum, ileum, jejunum, ascending colon, transverse colon, descending colon, cecum and liver, but not in esophagus and rectum.

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

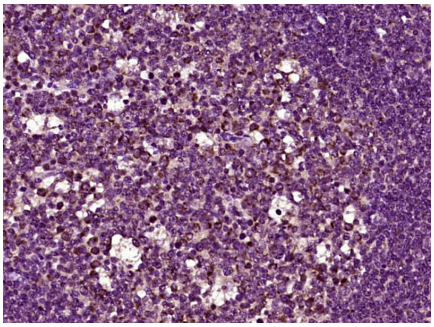
Name	GPBAR1 (HGNC:19680)
Function	G protein-coupled receptor for bile acid (PubMed: 12419312, PubMed:12524422, PubMed:32698187, PubMed:32747649, PubMed:35858343). Bile acid-binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as adenylate cyclase (PubMed:12419312, PubMed:12524422, PubMed:32698187, PubMed:32747649, PubMed:35858343). GPBAR1 is coupled to G(s) G proteins and mediates activation of adenylate cyclase activity (PubMed:12419312, PubMed:12524422, PubMed:32698187, PubMed:32747649, PubMed:35858343). Activated by bile acids, such as lithocholate, deoxycholate, chenodeoxycholate and cholate, in descending order (PubMed:12524422, PubMed:32698187). Apart from their role in lipid dietary absorption and cholesterol catabolism, bile acids act as an important signaling molecule, involved in processes, such as energy expenditure or tissue inflammation (PubMed:26541439). GPBAR1-mediated signaling promotes energy expenditure and adiposity reduction in brown adipose tissue by activating adenylate cyclase, leading to DIO2 activation (By similarity). Involved in bile acid promoted GLP-1 secretion (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Ubiquitously expressed. Expressed at higher level in spleen and placenta. Expressed at lower level in other tissues. In digestive tissues, it is expressed in stomach, duodenum, ileocecum, ileum, jejunum, ascending colon, transverse colon, descending colon, cecum and liver, but not in esophagus and rectum

Background

The G protein-coupled receptor TGR5 is a 330-amino acid protein that is almost universally expressed in human tissues including heart, skeletal muscle, spleen, kidney, liver, small intestine, placenta, and leukocytes, but not in brain, colon (without mucosa), thymus, or lung. TGR5 is sensitive to bile acids and responds through a significant mechanism that coordinates energy homeostasis. Bile acids activate mitogen-activated protein (MAP) kinase pathways, specifically induce TGR5 internalization, promote an increase of guanosine 5'-O-3-thio-triphosphate binding in membrane fractions, and cause rapid intracellular cAMP production. Bile acids also provoke TGR5 to suppress macrophage functions. TGR5-controlled signaling pathways may be good candidates for drug targets to treat common metabolic diseases, such as obesity, type II diabetes, hyperlipidemia, and atherosclerosis.

Images

Paraformaldehyde-fixed, paraffin embedded (Human tonsil); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody



incubation with (GPBAR1) Polyclonal Antibody, Unconjugated (AP59093) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.