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GPR4 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20446c

Product Information

Application	WB, E
Primary Accession	P46093
Other Accession	P50132
Reactivity	Human, Rat, Mouse
Predicted	Pig, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	40982
Antigen Region	196-224

Additional Information

Gene ID	2828
Other Names	G-protein coupled receptor 4, G-protein coupled receptor 19, GPR4, GPR19
Target/Specificity	This GPR4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 196-224 amino acids from the Central region of human GPR4.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. 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	GPR4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GPR4 {ECO:0000303|PubMed:7832990, ECO:0000312|HGNC:HGNC:4497}
Function	Proton-sensing G protein-coupled receptor activated by extracellular pH, which is required to monitor pH changes and generate adaptive reactions (PubMed:12955148, PubMed:17462861, PubMed:33478938, PubMed:39753132, PubMed:39799123, PubMed:40211064,

PubMed:40215959, PubMed:40215960). Activated by an optimal pH of 6.8-7.2 (PubMed:12955148, PubMed:17462861, PubMed:39753132). Ligand 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:39753132, PubMed:40211064, PubMed:40215960). GPR4 is mainly coupled to G(s) G proteins and mediates activation of adenylate cyclase activity (PubMed:12955148, PubMed:17462861, PubMed:20211729, PubMed:22110680, PubMed:39753132, PubMed:40211064, PubMed:40215960). May also couple with G(i), G(q) and G(12)/G(13) G proteins (PubMed:12955148, PubMed:17462861, PubMed:20211729, PubMed:22110680). Acts as a key regulator of respiratory sensitivity to CO2/H(+) in brain retrotrapezoid nucleus neurons: acts by mediating detection of protons generated by the formation of carbonic acid in the blood, an important mechanism to impulse to breathe (By similarity). Also acts as a regulator of acid secretion in the kidney collecting duct by maintaining acid-base homeostasis in the kidney (By similarity). Acidosis-induced GPR4 activation increases paracellular gap formation and permeability of vascular endothelial cells, possibly through the G(12)/G(13)/Rho GTPase signaling pathway (PubMed:32058960).

Cellular Location Cell membrane; Multi-pass membrane protein

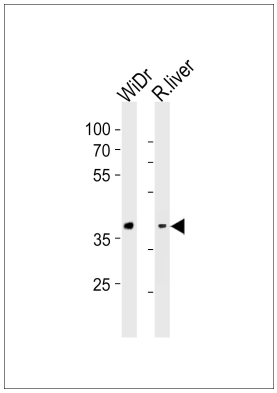
Background

Proton-sensing receptor coupled to several G-proteins, including G(s), G(13) and G(q)/G(11) proteins, leading to cAMP production.

References

Heiber M., et al. DNA Cell Biol. 14:25-35(1995).
Mahadevan M.S., et al. Genomics 30:84-88(1995).
An S., et al. FEBS Lett. 375:121-124(1995).
Kaighin V.A., et al. Submitted (DEC-2007) to the EMBL/GenBank/DDBJ databases.
Ota T., et al. Nat. Genet. 36:40-45(2004).

Images



GPR4 Antibody (Center) (Cat. #AP20446c) western blot analysis in WiDr cell line and rat liver tissue lysates (35ug/lane).This demonstrates the GPR4 antibody detected the GPR4 protein (arrow).

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