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

M Gpr68 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20524c

Product Information

Application	WB, E
Primary Accession	Q8BFQ3
Other Accession	Q15743, O46685
Reactivity	Mouse
Predicted	Bovine, Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	41209
Antigen Region	200-225

Additional Information

Gene ID	238377
Other Names	Ovarian cancer G-protein coupled receptor 1, G-protein coupled receptor 68, Sphingosylphosphorylcholine receptor, Gpr68, Ogr1
Target/Specificity	This Mouse Gpr68 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 200-225 amino acids from the Central region of mouse Gpr68.
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	M Gpr68 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Gpr68 {ECO:0000303|PubMed:29677517, ECO:0000312|MGI:MGI:2441763}
Function	Proton-sensing G-protein coupled receptor activated by extracellular pH, which is required to monitor pH changes and generate adaptive reactions (By similarity). The receptor is almost silent at pH 7.8 but fully activated at pH 6.8

(By similarity). 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 phospholipase C (By similarity). GPR68 is mainly coupled to G(q) G proteins and mediates production of diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) (By similarity). Acts as a key mechanosensor of fluid shear stress and membrane stretch (PubMed:29677517). Expressed in endothelial cells of small-diameter resistance arteries, where it mediates flow-induced dilation in response to shear stress (PubMed:29677517). May represents an osteoblastic pH sensor regulating cell-mediated responses to acidosis in bone (PubMed:18847331). Acts as a regulator of calcium- sensing receptor CASR in a seesaw manner: GPR68-mediated signaling inhibits CASR signaling in response to protons, while CASR inhibits GPR68 in presence of extracellular calcium (PubMed:26261299). Also functions as a metastasis suppressor gene in prostate cancer (PubMed:17728215).

Cellular Location

Cell membrane {ECO:0000250|UniProtKB:Q15743}; Multi-pass membrane protein

Tissue Location

Expressed in the lung, testis, heart, brain, spleen, thymus, brown fat, small intestine, colon, peripheral blood leukocytes, macrophages, stomach, ovary and white fat but not in the liver, kidney, and skeletal muscle (PubMed:19479052). Expression in the prostate is weak but detectable (PubMed:19479052). Specifically expressed in endothelial cells of small-diameter resistance arteries (PubMed:29677517).

Background

Proton-sensing receptor involved in pH homeostasis. May represents an osteoblastic pH sensor regulating cell-mediated responses to acidosis in bone. Mediates its action by association with G proteins that stimulates inositol phosphate (IP) production or Ca(2+) mobilization. The receptor is almost silent at pH 7.8 but fully activated at pH 6.8. Function also as a metastasis suppressor gene in prostate cancer.

References

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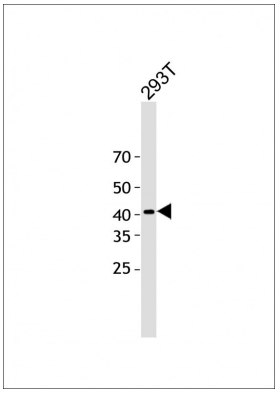
Vassilatis D.K., et al. Proc. Natl. Acad. Sci. U.S.A. 100:4903-4908(2003).
Singh L.S., et al. J. Natl. Cancer Inst. 99:1313-1327(2007).
Frick K.K., et al. J. Bone Miner. Res. 24:305-313(2009).
Li H., et al. PLoS ONE 4:E5705-E5705(2009).

Images



All lanes: Anti-M Gpr68 Antibody (Center) at 1:2000 dilution + 293T whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 41 KDa Blocking/Dilution buffer: 5% NFDM/TBST.