3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-GPR39 (C-terminal region)
produced in rabbit, affinity isolated antibody

Product Number **SAB4200185**

Product Description

Anti-GPR39 (C-terminal region) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human GPR39 (GeneID: 2863), conjugated to KLH. The corresponding sequence has 70% identity with mouse GPR39. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-GPR39 (C-terminal region) specifically recognizes human GPR39. The antibody may be used in several immunochemical techniques including immunoblotting (~52 kDa). Detection of the GPR39 band by immunoblotting is specifically inhibited by the GPR39 immunizing peptide.

GPR39 is a member of the ghrelin subfamily of G-protein coupled receptors (GPCRs) that have been shown to be important regulators of food intake, energy metabolism, and glucose homeostasis.[1,2] The full-length biologically active form of GPR39, called GPR39-1a, is found exclusively in peripheral tissues.[3] A truncated spliced variant of GPR39 is expressed in various regions of the brain.[1] GPR39 mRNA is highly expressed in endocrine and metabolic organs such as the pancreas, liver, the gastrointestinal tract, and white adipose tissue. GPR39 expression specifically follows the endocrine pancreatic differentiation and is selectively expressed in β-cells of the pancreatic islets. GPR39 signals mainly through $G\alpha_q$ and $G\alpha_{12/13}$ leading to inositol phosphate accumulation and activation of downstream pathways such as the NFAT transcriptional pathway.[2] GPR39 is activated by Zn^{2+} but not by obestatin, a putative satiety peptide encoded by the ghrelin precursor. GPR39 has been suggested to act as a sensor of Zn^{2+} released from the secretory granules of the pancreatic β-cells and therefore acting as a paracrine regulator of islet function.[4] GPR39 has been suggested to mediate glutamate metabotropic signaling triggered by synaptically released Zn^{2+} in the hippocampus.[5] Knockout of GPR39 in mice is found to be associated with impaired insulin secretion, glucose tolerance, and altered pancreatic β-cell gene expression and function, suggesting that this receptor could be a novel potential target for the treatment of diabetes.[6]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1.5-3.0 μg/mL is recommended using cell lysates of HEK-293T overexpressing human GPR39.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. McKee, K.K., et al., *Genomics,* **46**, 426-434 (1997).
2. Holst, B., et al., *J. Biol. Chem.,* **279**, 53806-53817 (2004).
3. Egerod, K.L., et al., *Mol. Endocrinol.,* **21**, 1685-1698 (2007).
4. Holst, B., et al., *Endocrinol.,* **148**, 13-20 (2007).
5. Besser, L., et al., *J. Neurosci.,* **29**, 2890-2901 (2009).
6. Holst, B., et al., *Endocrinol.,* **150**, 2577-2585 (2009).

VS,ER,TD,KAA,PHC,MAM 07/19-1