PRODUCT INFORMATION

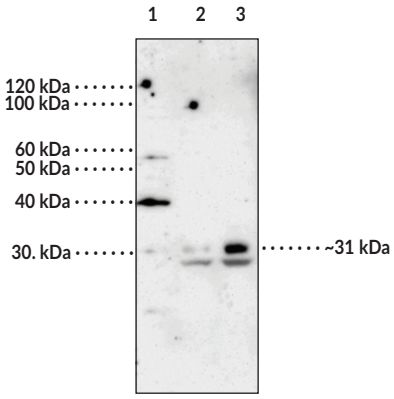
FFAR1 (GPR40) Polyclonal Antibody

Item No. 10007205

Overview and Properties

Contents:	This vial contains 500 µl of peptide affinity-purified polyclonal antibody.
Synonyms:	G Protein-Coupled Receptor 40, FFAR1, Free Fatty Acid Receptor
Immunogen:	Human GPR40
Species Reactivity:	(+) Human, mouse, rat, porcine; other species not tested
Uniprot No.:	O14842
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	Western blot (WB) and immunohistochemistry (IHC) of paraffin-embedded sections; the recommended starting dilution for WB is 1:200 and the recommended starting concentration for IHC is 10 µg/ml. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

Image



Lane 1: Magic Mark (3 µl)
Lane 2: Porcine Pancreas (10 µg)
Lane 3: Porcine Pancreas (25 µg)

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Description

GPR40 is a seven transmembrane G protein-coupled receptor with signalling mediated by medium- and long-chain fatty acids.[1,2] Found predominantly in the β cells of pancreatic islets, GPR40 has been implicated in the regulation of insulin secretion.[3,2] Overexpression of GPR40 in murine β cells leads to glucose intolerance suggesting a link between GPR40 expression and diabetes.[3,6] The receptor has also been identified as a possible mediator of oleate- and linoleate- stimulated proliferation of the human breast cancer cell line MCF-7.[4,5] GPR40 has a calculated mass of 31.4 kDa based on its amino acid sequence.

References

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2. Itoh, Y., Kawamata, Y., Harada, M., *et al.* Free fatty acids regulate insulin secretion from pancreatic β cells through GPR40. *Nature* **422**, 173-176 (2003).
3. Briscoe, C.P., Peat, A.J., McKeown, S.C., *et al.* Pharmacological regulation of insulin secretion in MIN6 cells through the fatty acid receptor GPR40: Identification of agonist and antagonist small molecules. *Br. J. Pharmacol.* **2006**, 1-10 (2006).
4. Yonezawa, T., Katoh, K., and Obara, Y. Existence of GPR40 functioning in a human breast cancer cell line, MCF-7. *Biochem. Biophys. Res. Commun.* **314**, 805-809 (2004).
5. Hardy, S., St-Onge, G.G., Joly, E., *et al.* Oleate promotes the proliferation of breast cancer cells via the G protein-coupled receptor GPR40. *J. Biol. Chem.* **280(14)**, 13285-13291 (2005).
6. Steneberg, P., Rubins, N., Bartoov-Shifman, R., *et al.* The FFA receptor GPR40 links hyperinsulinemia, hepatic steatosis, and impaired glucose homeostasis in mouse. *Cell Metabolism* **1**, 245-258 (2005).

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