

MULTISCREEN™ STABLE CELL LINE HUMAN RECOMBINANT GPR39 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: H1099

Lot Number: H1099-010107

Quantity: 1 vial (2×10^6) frozen cells

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T

Transfection: Expression vector containing full-length human GPR39 cDNA (GenBank Accession Number NM_001508.1) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS, 1 μ g/mL puromycin

Stability: Stable after minimum of two months continuous growth

Background: The G protein-coupled receptor 39 is a seven transmembrane receptor expressed mainly in endocrine and metabolic tissues and is a member of the ghrelin receptor family. The receptor acts as a Zn⁺⁺ sensor signaling mainly through Gq and G12/13 pathways. It was first reported to be the receptor for a peptide fragment from the ghrelin precursor named obestatin but later it was reported that obestatin did not activate GPR39 and therefore, the natural ligand for GPR39 is uncertain so far. GPR39 is expressed in the stomach, small intestine and areas of the brain, including the hypothalamus. The expression of GPR39 is regulated by hepatocyte nuclear factor (HNF)-1alpha and HNF-4alpha and plays an important role in glucose homeostasis and pancreatic islet functions. Deficiency of the GPR39 receptor is associated with obesity and altered adipocyte metabolism. In addition, it has been shown that overexpression of GPR39 contributes to malignant development of human oesophageal squamous cell carcinoma.

Application: Functional assays

Figure 1

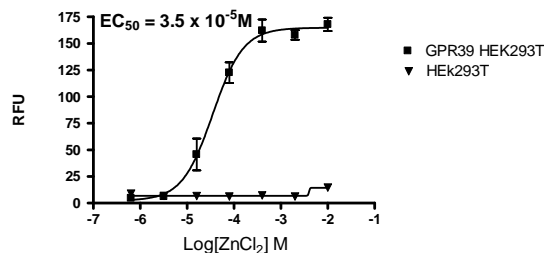


Figure 2

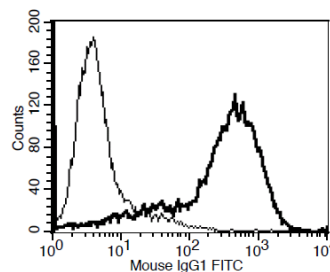


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, monitored with FlexStation. **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

McKee *et al.* (1997) Cloning and characterization of two human G protein-coupled receptor genes (GPR38 and GPR39) related to the growth hormone secretagogue and neurotensin receptors. *Genomics* 46:426-434.

Zhang *et al.* (2005) Obestatin, a peptide encoded by the ghrelin gene, opposes ghrelin's effects on food intake. *Science* 310:996-999.

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www.multispaninc.com
sales@multispaninc.com
support@multispaninc.com

Ver. October 2005

Phone: +1 (510) 887-0817
Fax: +1 (510) 887-0863
26219 Eden Landing Road
Hayward, CA 94545-3718
U.S.A.