

**MULTISCREEN™ STABLE CELL LINE
RAT RECOMBINANT GPR41 RECEPTOR**

Datasheet

PRODUCT INFORMATION

Catalog Number: Cr1102

Lot Number: Cr1102-082812

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T

Transfection: Expression vector containing full-length rat FFAR3 cDNA (GenBank Accession Number: NM_001108912) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

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

Stability: In progress

Background: GPR41 or free fatty acid receptor 3 (FFAR3) shares 98% amino acid identity with GPR42 and closely related to GPR43. While GPR43 is expressed in immune cells, GPR41 appears to be expressed in blood vessel endothelial cells, particularly in adipose tissue, with significant expression also in immune cells and endothelial cells of other tissues. Although propionate and short chain fatty acids were identified recently as the cognate physiological ligands for GPR41, the functional roles of the receptor is still not clear and awaits the development of specific high affinity agonist and antagonists and the evaluation of knock-out animals.

Application: Functional assays

Figure 1

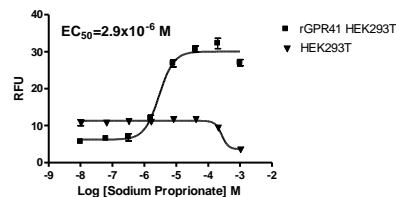


Figure 2

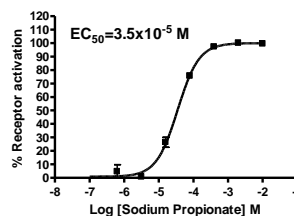


Figure 3

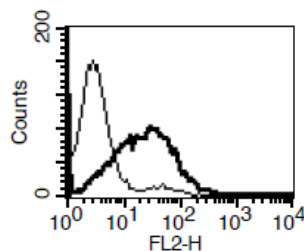


Figure 1. Dose-dependent calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). Cells were transiently transfected with Gαq5. **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP accumulation upon treatment with ligand, measured with Multiscreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01). **Figure 3.** 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:

Sawzdargo et al. (1997) Cluster of four novel human G protein-coupled receptor genes occurring in close proximity to CD22 gene on chromosome 19q13.1. *Biochem Biophys Res Commun* 239:543-547.

Brown et al. (2003) The Orphan G Protein-coupled Receptors GPR41 and GPR43 Are Activated by Propionate and Other Short Chain Carboxylic Acids. *J Biol Chem* 278:11312-11319.

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