MULTISCREEN™ STABLE CELL LINE
DOG RECOMBINANT GPR43 RECEPTOR

Data Sheet

PRODUCT INFORMATION

Catalog Number: Cd1104-1B

Lot Number: Cd1104-1B-022916

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: CHO K1

Transfection: Expression vector containing full-length human FFAR2 cDNA (GenBank Accession Number XM_005616709) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM/F12, 10% FBS, 10 µg/mL puromycin

Stability: Stability in progress

Background: GPR43, or free fatty acid receptor 2 (FFAR2), encodes a deduced 330-amino acid protein with 7 transmembrane domains. GPR43 is expressed by enteroendocrine L cells containing peptide YY in the large intestine, adipocytes, and peripheral blood mononuclear cells. The GPR43 receptor binds short-chain fatty acids composed of less than 5 carbon atoms. Many short-chain fatty acids are produced by gut bacteria during dietary fiber fermentation. This ligand specificity provides a molecular link between diet, gastrointestinal bacterial metabolism, and immune and inflammatory responses. The importance of GPR43 in inflammation, glucose and lipid homeostasis, and adiposity demonstrate its potential as a therapeutic target for type 2 diabetes, obesity, and ulcerative colitis.

Application: Functional assays

Figure 1

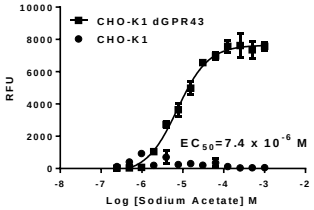

Figure 2

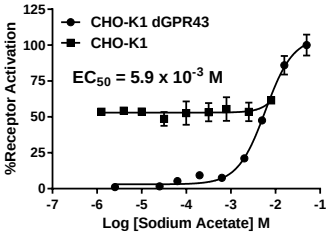

Figure 3

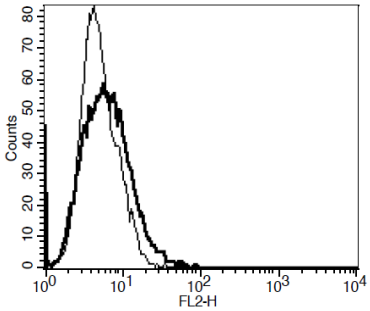

Figure 1. Dose-dependent calcium flux upon treatment with ligand, monitored with FLIPR. **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP accumulation upon treatment with ligand. **Figure 3.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

Ang, Z., & Ding, J. L. (2016). GPR41 and GPR43 in Obesity and Inflammation – Protective or Causative? *Frontiers in Immunology*, *7*, 28. http://doi.org/10.3389/fimmu.2016.00028

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.

Tikhonova, I. G., & Poerio, E. (2015). Free fatty acid receptors: structural models and elucidation of ligand binding interactions. *BMC Structural Biology*,*15*, 16. http://doi.org/10.1186/s12900-015-0044-2

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