

**MULTISCREEN™ STABLE CELL LINE  
RHESUS RECOMBINANT GPR43 RECEPTOR**

**PRODUCT INFORMATION**

**Catalog Number:** Cpr1104-1A

**Lot Number:** Cpr1104-1A-020216

**Quantity:** 1 vial ( $2 \times 10^6$ ) 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\_001095000) with FLAG tag sequence at N-terminus

**Recommended Storage:** Liquid nitrogen upon receiving

**Propagation Medium:** DMEM/F12, 10% FBS, 10  $\mu$ g/mL puromycin

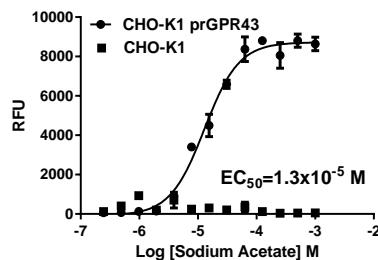
**Stability:** Stability in progress

**Data Sheet**

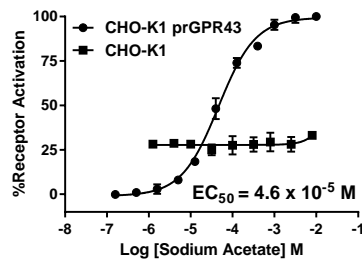
**Background:** GPR43, or free fatty acid receptor 2 (FFAR2), encodes a deduced 330-amino acid protein with 7 transmembrane domains. GPR43 is expressed by enteroendocrine L cells containing peptide YY in the large intestine, adipocytes, and peripheral blood mononuclear cells. The GPR43 receptor binds 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**

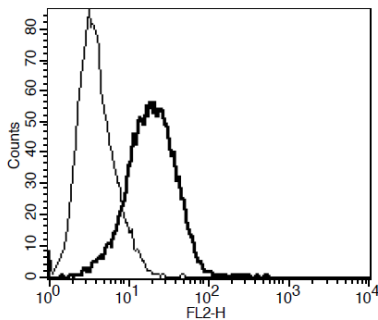


**Figure 2**



**Figure 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.

**Figure 3**



**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., & Paoletti, 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>

**FOR RESEARCH USE ONLY.**

© 2005 Multispan Inc. All rights reserved. No part of this document may be reproduced in any form without prior permission in writing.