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One-Stop Shop for GPCR Research

MULTISCREEN^{TM} STABLE CELL LINE
HUMAN RECOMBINANT GPR120 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: C1294-1

Lot Number: C1294-1-012711

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 GPR120 cDNA (GenBank Accession Number: BC101175.2) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEF/12, 10% FBS, 10 µg/mL puromycin

Stability: Stable in culture for minimum of two months

Background: GPR120 is a G-protein coupled receptor and has been shown to stimulate secretion of gut hormones GLP-1 and cholecystokinin upon binding of long chain free fatty acids. Stimulation of GPR120 by FFAs results in elevation of Ca^{++} and activation of the ERK cascade which suggests interaction with the Gq family of G proteins. GPR120 is expressed in adipose tissue, proinflammatory macrophages and Kupffer cells . Stimulation of GPR120 with agonist causes broad anti-inflammatory effects in macrophages such as insulin sensitizing, antidiabetic effects and macrophage-induced tissue inflammation repression. Recent studies of the ω-3 FA treatment show inhibited inflammation and enhanced systemic insulin sensitivity in WT mice, but no effect in GPR120 knockout mice. This raises the possibility that targeting this receptor could have therapeutic potential in many inflammatory diseases including obesity and type 2 diabetes.

Application: Functional assays

Figure 1

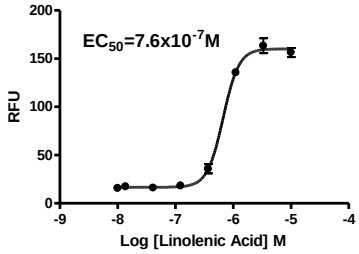

Figure 2

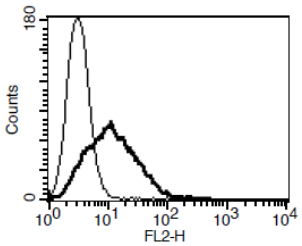

Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, monitored with FlexStation. **Figure 2.** Receptor Expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

Fredriksson *et al*. (2003) Seven evolutionarily conserved human rhodopsin G protein-coupled receptors lacking close relatives. *FEBS Lett* 554:381-388.

Hirasawa *et al*. (2005) Free fatty acids regulate gut incretin glucagon-like peptide-1 secretion through GPR120. *Nature Med* 11:90-94.

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