

MULTISCREEN™ STABLE CELL LINE MOUSE RECOMBINANT LPA5 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: Cm1145-6

Lot Number: C1145-6-062012

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: RH7777

Transfection: Expression vector containing full-length mouse LPA5 cDNA (GenBank Accession Number: NM_001163268.1) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS, 3 μ g/mL puromycin

Stability: In progress

Background: LPA5 (GPR92) represents a putative orphan G protein coupled receptor with unknown functions. The mouse LPA5 receptor gene has an 81% homology to the human ortholog. Research has shown LPA5 to be expressed in the mouse intestine and upon stimulation with LPA, activates Na⁺/H⁺ exchanger 3 and stimulates sodium and fluid absorption. ESTs for LPA5 have been isolated from human normal brain, testis, and tonsil B-cell libraries and from a human blood cancer cell library (pre-B cell). LPA5 protein contains 372 amino acids and shared 36 to 40% sequence identity in the transmembrane regions with the G protein-coupled purinergic receptor P2Y5 (P2RY5), GPR23, and GPR17.

Application: Functional assays

Figure 1

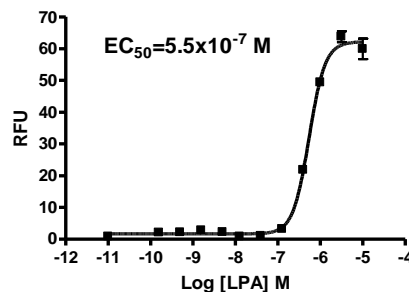


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

Lee *et al.* (2001) Discovery and mapping of ten novel G protein coupled receptor genes. *Gene* 275:83-91.

White *et al.* (2000) Autosomal dominant hypophosphataemic rickets is associated with mutations in FGF23. *Nat Genet* 26:345-348.

Lee *et al.* (2006) GPR92 as a new G12/13- and Gq-coupled lysophosphatidic acid receptor that increases cAMP, LPA5. *J Biol Chem* 281:23589-23597.

Yoo *et al.* (2011) Lysophosphatidic acid 5 receptor induces activation of Na⁺/H⁺ exchanger 3 via apical epidermal growth factor receptor in intestinal epithelial cells. *American Journal of Physiology Cell Physiology* Vol. 301 no. 5 C1008-C1016.

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