

**MultiScreen™ Stable Cell Line Human Recombinant
LPA3 (EDG7) Receptor**

Data sheet

PRODUCT INFORMATION

Catalog Number: C1053-6

Lot Number: C1053-6-110107

Quantity: 1 vial (2 x 10⁶) frozen cells

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: RH7777

Transfection: Expression vector containing full-length human LPA3 cDNA (GenBank Accession Number: NM_012152.1) with FLAG tag sequence at N-terminus.

Recommended Storage: Liquid nitrogen upon receiving.

Propagation Medium: DMEM, 10% FBS, 10µg/ml Puromycin.

Stability: In Progress

Background: LPA and the structurally related lysophospholipid mediator sphingosine 1-phosphate (S1P) signal cells through a set of G protein-coupled receptors known as EDG receptors. Some EDG receptors (e.g., EDG1) are S1P receptors; others (e.g., EDG2) are LPA receptors. EDG7 (LPA3) is one of the EDG receptors which mediate responses to unsaturated LPA. Functional analysis demonstrated by increased calcium mobilization in EDG7- and EDG4- but not EDG2-expressing insect cells. EDG7 mediated responses preferentially to unsaturated LPA, whereas EDG4 mediated responses to both saturated and unsaturated LPA. Cyclic AMP accumulation was increased in EDG7- and EDG4- but not EDG2-expressing cells in response to Forskolin and LPA. Unlike EDG4-expressing mammalian cells, EDG7- and EDG2-expressing cells were not coupled to mitogen-activated protein kinase (MAPK) activation.

Application: Functional assays.

Fig 1

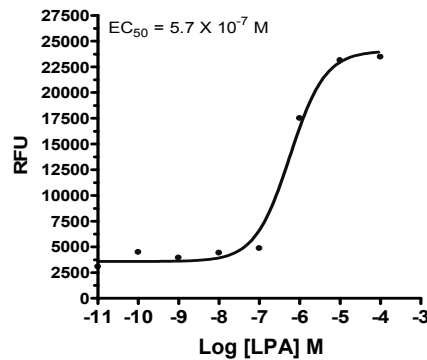


Fig 2

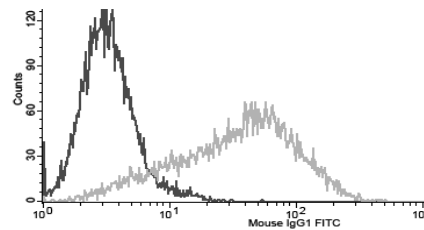


Figure legend: Fig 1. Dose-dependent response of intracellular calcium flux upon treatment with ligand, monitored with FlexStation. Fig 2. Receptor expression on cell surface measured by Flow-Cytometry (FACS) using anti-FLAG antibody.

References:

Bandoh, K.; Aoki, J.; Hosono, H.; Kobayashi, S.; Kobayashi, T.; Murakami-Murofushi, K.; Tsujimoto, M.; Arai, H.; Inoue, K. : Molecular cloning and characterization of a novel human G-protein-coupled receptor, EDG7, for lysophosphatidic acid. *J. Biol. Chem.* 274: 27776-27785, 1999.

Ye, X.; Hama, K.; Contos, J. J. A.; Anliker, B.; Inoue, A.; Skinner, M. K.; Suzuki, H.; Amano, T.; Kennedy, G.; Arai, H.; Aoki, J.; Chun, J. : **LPA3-mediated lysophosphatidic acid signalling in embryo implantation and spacing.** *Nature* 435: 104-108, 2005.

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www.multispaninc.com
sales@multispaninc.com
support@multispaninc.com

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Phone: +1 (510) 887-0817
Fax: +1 (510) 887-0863
26219 Eden Landing Road
Hayward, CA 94545-3718
U.S.A.