

Product Sheet

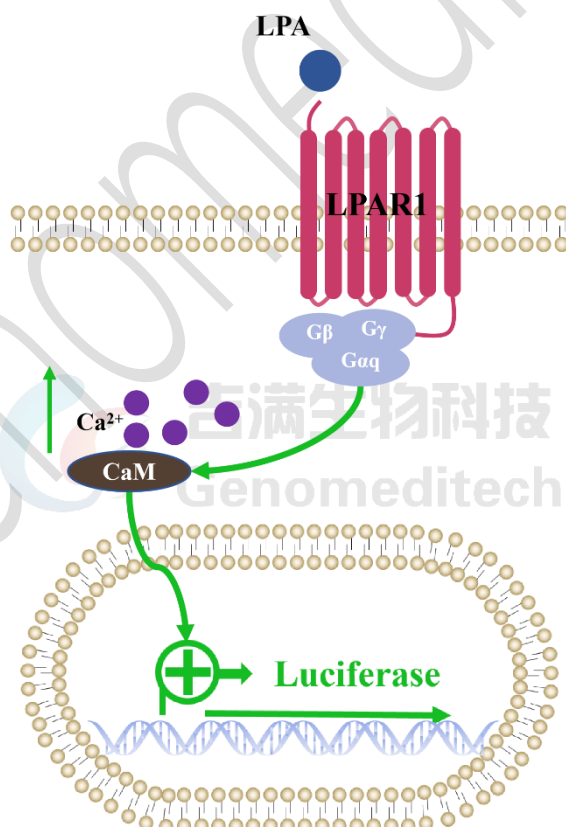
H_LPAR1 Reporter CHO-K1 Cell Line

Catalog number: GM-C43374

Version 3.3.1.260414

The LPAR1 gene (Lysophosphatidic Acid Receptor 1) encodes a G protein-coupled receptor (GPCR) that serves as a receptor for lysophosphatidic acid (LPA). It mediates several signaling pathways, such as Rho, Ras, PLC, PI3K, and MAPK, regulating cell proliferation, migration, survival, differentiation, and cytoskeletal remodeling. LPAR1 is widely expressed, particularly in the nervous, cardiovascular, and renal systems, and plays key roles in embryonic and neural development, fibrosis, and tumor metastasis, making it an important molecule in signal transduction and a potential therapeutic target.

H_LPAR1 Reporter CHO-K1 Cell Line is a clonal stable CHO-K1 cell line constructed using lentiviral technology, constitutive expression of the LPAR1 gene, along with signal-dependent expression of a luciferase reporter gene. When LPA ligand binds to its receptor, it activates downstream signaling pathways, leading to the expression of luciferase. The luciferase activity measurement indicates the activation level of the signaling pathway and can thus be used to evaluate the in vitro effects of related drugs.



Specifications

Quantity	5E6 Cells per vial, 1 mL
Product Format	1 vial of frozen cells
Shipping	Shipped on dry ice
Storage Conditions	Liquid nitrogen immediately upon receipt

Recovery Medium	F12K+10% FBS+1% P.S
Growth medium	F12K+10% FBS+1% P.S+4 µg/mL Blasticidin+4 µg/mL Puromycin
Note	None
Freezing Medium	90% FBS+10% DMSO
Growth properties	Adherent
Growth Conditions	37°C, 5% CO ₂

Mycoplasma Testing	The cell line has been screened to confirm the absence of Mycoplasma species.
Safety considerations	Biosafety Level 2
Note	It is recommended to expand the cell culture and store a minimum of 10 vials at an early passage for potential future use.

Materials

Reagent	Manufacturer/Catalogue No.
F12K	BOSTER/PYG0036
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/ GM-040404
Puromycin	Genomeditech/ GM-040401
1-Oleoyl lysophosphatidic acid sodium	MCE/HY-107614
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/ GM-040513
Anti-LPAR1 hIgG1 Antibody(Ab17)	Genomeditech/GM-88355AB

Figures

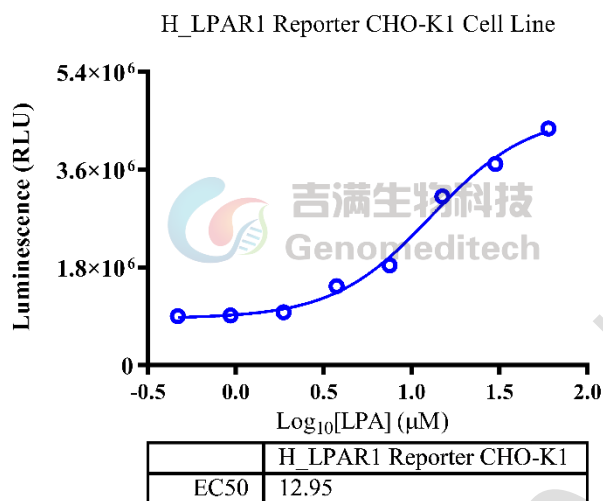


Figure 1 | Response to 1-Oleoyl lysophosphatidic acid sodium. The H_LPAR1 Reporter CHO-K1 Cell Line (Cat. GM-C43374) at a concentration of 1E4 cells/well (96-well format) was stimulated with serial dilutions of 1-Oleoyl lysophosphatidic acid sodium (MCE/HY-107614) in assay buffer (F12K + 1% FBS + 1% P.S) for 16 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [4.1]. Data are shown by drug molar concentration.

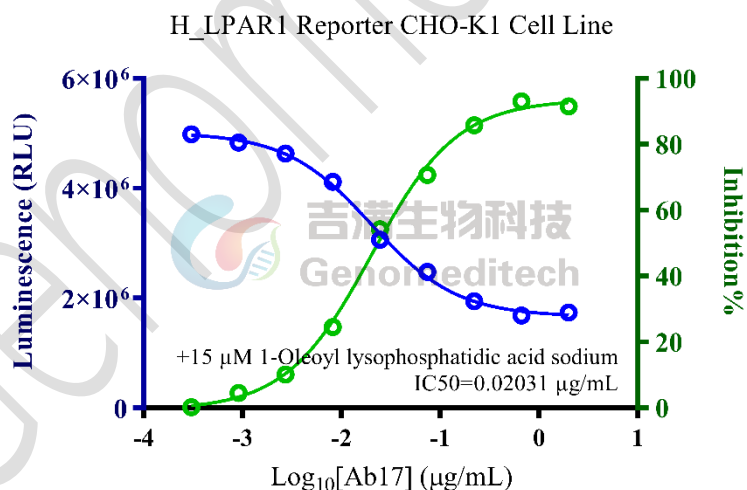


Figure 2 | Inhibition of 1-Oleoyl lysophosphatidic acid sodium-induced reporter activity by Anti-LPAR1 hIgG1 Antibody(Ab17). Serial dilutions of the Anti-LPAR1 hIgG1 Antibody(Ab17) (Cat. GM-88355AB) were incubated with 1E4 cells/well of the H_LPAR1 Reporter CHO-K1 Cell Line (Cat. GM-C43374) in a 96-well plate for 1 hour in assay buffer (F12K + 1% FBS + 1% P.S). Subsequently, the 1-Oleoyl lysophosphatidic acid sodium (MCE/HY-107614) at a density of 15 µM was added, and the coculture proceeded for an additional 6 hours. Firefly luciferase activity was then measured using the Luciferase Reporter Assay Kit (Genomeditech) (left Y-axis, relative luminescence units), with inhibition percentages shown on the right Y-axis. Data are shown by drug mass concentration.

Cell Recovery

Recovery Medium: F12K+10% FBS+1% P.S

To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C . Storage at -70°C will result in loss of viability.

- a) Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 - 3 minutes).
- b) Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
- c) Transfer the vial contents to a centrifuge tube containing 5.0 mL complete culture medium and spin at approximately $176 \times g$ for 5 minutes. Discard supernatant.
- d) Resuspend cell pellet with the recommended recovery medium. And dispense into appropriate culture dishes.
- e) Incubate the culture at 37°C in a suitable incubator. A 5% CO_2 in air atmosphere is recommended if using the medium described on this product sheet.

Cell Freezing

Freezing Medium: 90% FBS+10% DMSO

- a) Centrifuge at $176 \times g$ for 3 minutes to collect cells.
- b) Resuspend the cells in pre-cooled freezing medium and adjust the cell density to 5×10^6 cells/mL.
- c) Aliquot 1 mL into each vial.
- d) Place the vial in a controlled-rate freezing container and store at -80°C for at least 1 day, then transfer to liquid nitrogen as soon as possible.

Cell passage

Growth medium: F12K+10% FBS+1% P.S+4 $\mu\text{g}/\text{mL}$ Blasticidin+4 $\mu\text{g}/\text{mL}$ Puromycin

For the first 1 to 2 passages post-resuscitation, use the recovery medium. Once the cells have stabilized, switch to a growth medium.

- a) Remove and discard culture medium.
- b) Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.
- c) Add 1.0 mL of 0.25% (w/v) Trypsin-EDTA solution to dish and observe cells under an inverted microscope until cell layer is dispersed (usually within 2 to 3 minutes at 37°C).
- d) Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal.
- e) Add 2.0 mL of growth medium to mix well and aspirate cells by gently pipetting.
- f) After centrifugation, resuspend the pellet and add appropriate aliquots of the cell suspension to new culture vessels.
- g) Incubate cultures at 37°C .

Subcultivation Ratio: A subcultivation ratio of 1:4 - 1:5 is recommended

Medium Renewal: Every 2 to 3 days

Notes

- a) After the stabilization of the cell condition, there will be fewer dead cells post-passage, the cell growth rate will tend to stabilize, cell morphology will become uniform, and the cells will appear robust.

Related Products

LPAR1	
Tango-H_LPAR1 CHO-K1 Cell Line	H_LPAR1 CHO-K1 Cell Line
H_LPAR1 HEK-293 Cell Line	Mouse_LPAR1 HEK-293 Cell Line
Anti-LPAR1 hIgG1 Antibody(h309-4-A-BP1)	

License Agreement:

By purchasing and using this cell line product, the user voluntarily agrees to accept and abide by the following policies:

- This cell line product is restricted to research use only and shall not be used for any commercial purposes.
- This product is strictly prohibited from being used in the diagnosis or treatment of human or animal diseases, and shall not be directly used in experiments involving humans.
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