

Product Data Sheet

Product Name: GPR39 Stable Cell Line in CHO-K1 Cells

Catalog Number: cAP-1199-GPR39CHO

Cell Line: CHO-K1

Receptor: Human GPR39 (G Protein-Coupled Receptor 39)

Assay Type: Calcium Mobilization Assay (Chemiluminescence)

Pathway: Gα16-coupled signaling

Product Description

This is a stably transduced CHO-K1 cell line expressing human GPR39, developed for functional GPCR screening. GPR39 is a zinc-sensing GPCR associated with epithelial function, metabolic homeostasis, and wound healing. It has been implicated in gastrointestinal, pancreatic, and neurological functions. The cell line co-expresses AEQ-GFP (aequorin-GFP) and Gα16, enabling detection of receptor activity via calcium-sensitive chemiluminescence.

Key Features

- Stable expression of human GPR39 confirmed by RT-PCR
 - Co-expression of AEQ-GFP and Gα16
 - Suitable for zinc-activated GPCR research and functional assays
 - Compatible with high-throughput screening platforms
 - Delivered mycoplasma-free, with Certificate of Analysis and QC report
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Assay Protocol (Summary)

1. Plate GPR39-CHO cells in a 96-well plate at ~40,000 cells/well
 2. Incubate overnight at 37°C, 5% CO₂
 3. Load cells with 2.5 μM coelenterazine for 3 hours in the dark
 4. Replace with fresh assay buffer
 5. Add test compound or vehicle
 6. Measure light emission using a plate reader (integration: 1–5 sec per well)
 7. Analyze calcium mobilization as a functional readout of GPR39 activation
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Putative Ligands

- Zinc ions (Zn²⁺)

- TC-G 1008 (synthetic agonist)
 - Involved in epithelial barrier maintenance and tissue regeneration
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Storage and Stability

- Shipped on dry ice
 - Store in liquid nitrogen vapor phase upon arrival
 - Stable for >20 passages under recommended conditions
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Recommended Culture Conditions

- Medium: F12K + 10% FBS + 1% Pen/Strep
 - Selection antibiotics (if required): Puromycin (1–2 µg/mL)
 - Subculture ratio: 1:6 to 1:10 every 3–4 days
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Applications

- Functional analysis of zinc-sensing GPCR pathways
- Drug discovery targeting metabolic and epithelial disorders
- High-throughput compound screening
- Basic research in GPR39-mediated signaling

