Product Data Sheet

Product Name: GPR21 Stable Cell Line in CHO-K1 Cells
Catalog Number: cAP-1186-GPR21CHO
Cell Line: CHO-K1
Receptor: Human GPR21 (G Protein-Coupled Receptor 21)
Assay Type: Calcium Mobilization Assay (Chemiluminescence)
Pathway: Gα16-coupled signaling

Product Description

This is a stably transduced CHO-K1 cell line expressing human GPR21, designed for functional GPCR screening. GPR21 is an orphan receptor belonging to the Class A family of GPCRs. It has been associated with metabolic regulation and inflammatory signaling and is under investigation for roles in obesity and type 2 diabetes. 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 GPR21 confirmed by RT-PCR
- Co-expression of AEQ-GFP and Gα16
- Suitable for orphan GPCR ligand discovery and functional studies
- Compatible with high-throughput screening formats
- Delivered mycoplasma-free, with Certificate of Analysis and QC report

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Assay Protocol (Summary)

1. Plate GPR21-CHO cells in a 96-well plate at ~40,000 cells/well
2. Incubate overnight at 37°C, 5% CO_2
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 GPR21 activation

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Putative Ligands

- No confirmed endogenous or synthetic ligands

- Potential relevance in metabolic and inflammatory pathways
- Ideal for deorphanization and target validation screens

Storage and Stability

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

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

Applications

- Functional screening of orphan GPCRs involved in metabolic disorders
- Drug discovery for obesity and insulin resistance
- High-content phenotypic profiling
- Basic research in GPCR signaling pathways