

## Product Data Sheet

**Product Name:** GPRC5A Stable Cell Line in CHO-K1 Cells

**Catalog Number:** cAP-1222-GPRC5ACHO

**Cell Line:** CHO-K1

**Receptor:** Human GPRC5A (G Protein-Coupled Receptor Class C Group 5 Member A)

**Assay Type:** Calcium Mobilization Assay (Chemiluminescence)

**Pathway:** Gα16-coupled signaling

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## Product Description

This is a stably transduced CHO-K1 cell line expressing **human GPRC5A**, designed for functional GPCR screening. GPRC5A is an **orphan receptor** from the Class C family of GPCRs and is also known as **RAI3 (Retinoic acid-induced protein 3)**. It has been implicated in **epithelial cell regulation, lung development, and cancer biology**, particularly in **non-small cell lung cancer (NSCLC)**. The cell line co-expresses **AEQ-GFP (aequorin-GFP)** and **Gα16**, enabling detection of receptor activity via calcium-sensitive chemiluminescence.

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## Key Features

- Stable expression of **human GPRC5A** confirmed by **RT-PCR**
  - Co-expression of **AEQ-GFP** and **Gα16**
  - Suitable for **orphan GPCR ligand discovery** and **phenotypic profiling**
  - 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 GPRC5A-CHO cells in a 96-well plate at ~40,000 cells/well
  2. Incubate overnight at 37°C, 5% CO<sub>2</sub>
  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 GPRC5A activation
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## Putative Ligands

- **Retinoic acid:** Implicated in transcriptional regulation of GPRC5A but **not a direct agonist**
  - No confirmed endogenous or synthetic ligands
  - Ideal for **deorphanization** screens using compound libraries
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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 screening of **orphan Class C GPCRs**
- Drug discovery in **oncology** and **epithelial biology**
- High-content phenotypic profiling
- Basic research in **GPCR signaling networks**

