

Product Sheet

H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line

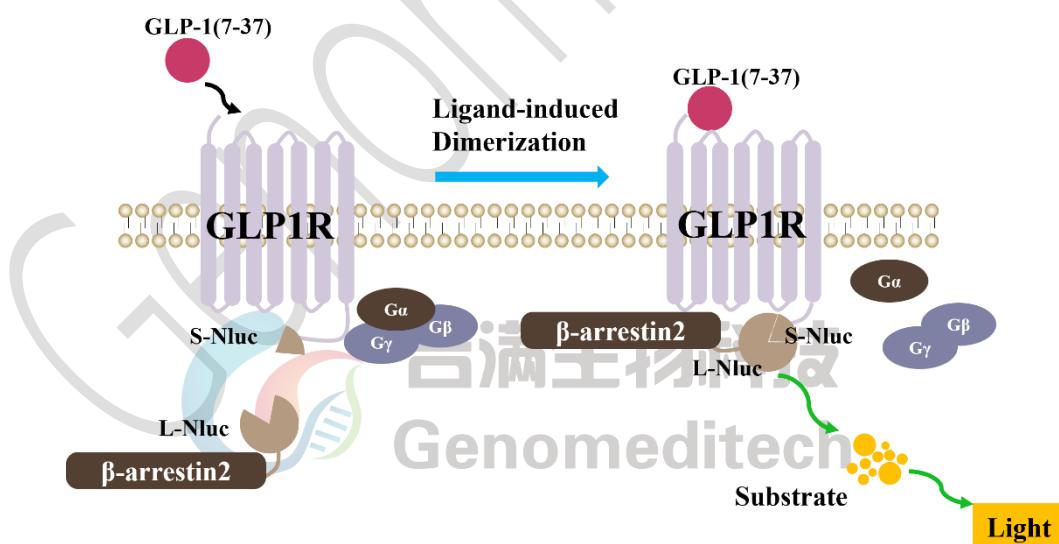
Catalog number: GM-C38752

Version 3.3.1.260805

The GLP-1 receptor (GLP-1R) is a G protein-coupled receptor encoded by the GLP1R gene on chromosome 6. It is expressed in pancreatic cells and brain neurons, playing a key role in insulin synthesis, secretion, and appetite regulation. GLP-1R activation increases intracellular cAMP levels via the adenylyl cyclase (AC) pathway, activating protein kinase A (PKA). This makes GLP-1R a critical target for diabetes drugs (GLP-1R agonists).

Upon agonist activation, GPCRs are phosphorylated by GRKs, exposing β -arrestin binding sites. β -arrestin binds to the receptor and cell membrane, where it stabilizes and facilitates receptor trafficking to clathrin-coated pits (CCPs) for endocytosis. This process not only desensitizes GPCRs but also activates β -arrestin-mediated, non-G protein signaling pathways.

H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line is a clonal stable CHO cell line constructed using lentiviral technology, constitutive expression of the GLP1R receptor gene, and detected using enzyme fragment complementation (EFC) technology. When the agonist binds to the ligand, the two luciferase fragments complement each other to form an active complex. Upon addition of a luciferase substrate, the complex catalyzes the reaction to produce a detectable luminescent signal. This highly sensitive method enables real-time monitoring of receptor interactions as well as functional changes in the cellular environment, making it a powerful tool for drug screening and biological research.



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 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
Puromycin	Genomeditech/ GM-040401
GLP-1(7-37) acetate	MCE/HY-P0055A
Anti-GLP1R hIgG1 Antibody(mAb-36986)	Genomeditech/ GM-51168AB
Anti-H_GLP1R hIgG1 Antibody(glutazumab)	Genomeditech/ GM-84914AB

Figures

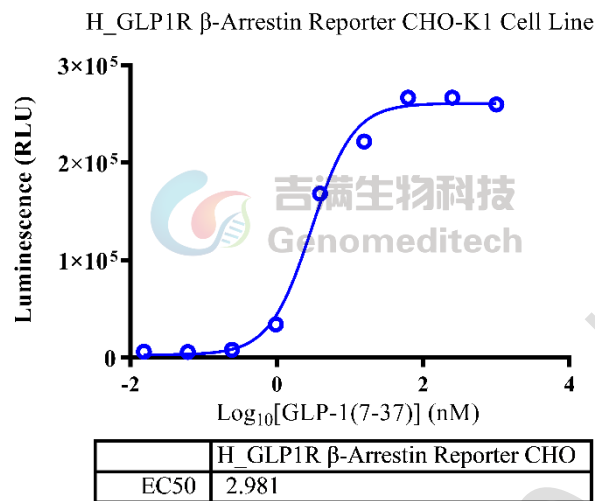


Figure 1 | Response to GLP-1(7-37). The H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line (Cat. GM-C38752) at a concentration of 1E4 cells/well (96-well format) was stimulated with serial dilutions of GLP-1(7-37) (MCE/HY-P0055A) in assay buffer (F12K+1% FBS+1% P.S) for 16 hours. The luciferase activity was measured using a detection kit. The maximum induction fold was approximately [35.2]. Data are shown by drug molar concentration.

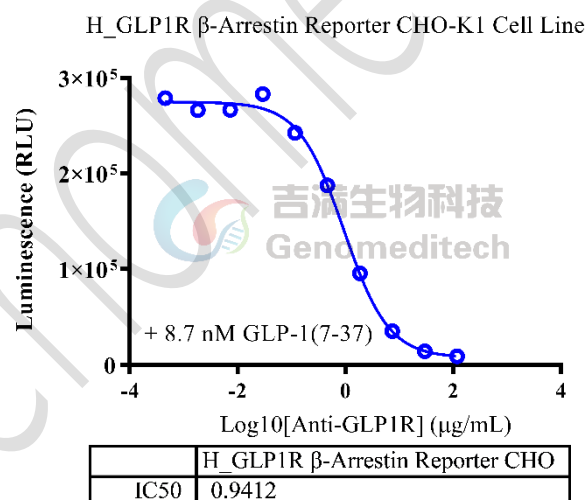


Figure 2 | Response to Anti-GLP1R hIgG1 Antibody(mAb-36986). Serial dilutions of the Anti-GLP1R hIgG1 Antibody(mAb-36986) (Cat. [GM-51168AB](#)) was incubated with 1E4 cells/well of the H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line (Cat. GM-C38752) in a 96-well plate for 1 hour in assay buffer (F12K+1% FBS+1% P.S). Subsequently, the GLP-1(7-37) (MCE/HY-P0055A) at a concentration of 8.7 nM was added, and the coculture proceeded for an additional 16 hours. The luciferase activity was measured using a detection kit. The maximum induction fold was approximately [31.4]. Data are shown by drug mass concentration.

H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line

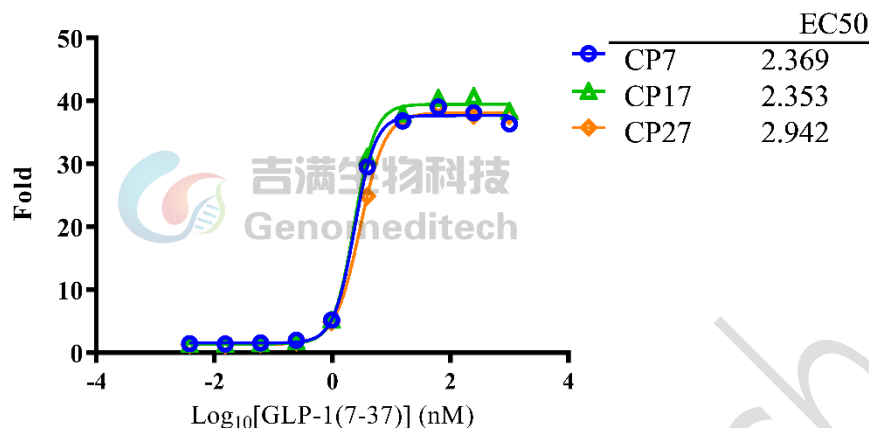


Figure 3 | The passage stability of response to GLP-1(7-37). The passage 7, 17, and 27 of H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line (Cat. GM-C38752) at a concentration of 1E4 cells/well (96-well format) were stimulated with serial dilutions of GLP-1(7-37) (MCE/HY-P0055A) in assay buffer (F12K+1% FBS+1% P.S) for 16 hours. Data are shown by drug molar concentration.

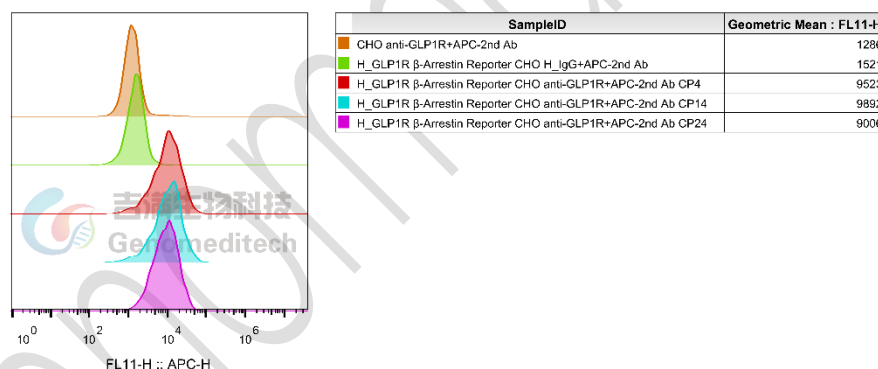


Figure 4 | The passage stability of the H_GLP1R β -Arrestin Reporter CHO-K1 Cell Line(Cat. GM-C38752) was determined by flow cytometry using Anti-GLP1R hIgG1 Antibody(mAb-36986) (Cat. [GM-51168AB](#)).

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.

- 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% CO₂ 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 5E6 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 µg/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

GCGR	
H_GCGR Reporter CHO-K1 Cell Line	H_GCGR Reporter HEK-293 Cell Line
H_GCGR Reporter HEK-293 DDX35TM Cell Line	Cynomolgus_GCGR HEK-293 Cell Line
H_GCGR CHO-K1 Cell Line	H_GCGR HEK-293 Cell Line
Mouse_GCGR HEK-293 Cell Line	
Anti-H_GCGR hIgG2 Antibody(volagidemab)	
GLP1R	
H_GLP1R Reporter CHO-K1 Cell Line	H_GLP1R Reporter HEK-293 Cell Line
H_GLP1R Reporter HEK-293 DDX35TM Cell Line	Cynomolgus_GLP1R GIPR CHO-K1 Cell Line
Cynomolgus_GLP1R HEK-293 Cell Line	H_GLP1R CHO-K1 Cell Line
H_GLP1R GIPR CHO-K1 Cell Line	H_GLP1R HEK-293 Cell Line
Mouse_GLP1R GIPR CHO-K1 Cell Line	Mouse_GLP1R HEK-293 Cell Line
Anti-GLP1R hIgG1 Antibody(mAb-36986)	Anti-H_GLP1R hIgG1 Antibody(glutazumab)
FGFR1	
H_FGF21 Reporter HEK-293 Cell Line	
Human FGF-21 Protein; His Tag	
CALCA(CGRP): CALCRL RAMP	
H_CALCRL RAMP1 Reporter HEK-293 Cell Line	H_CALCRL RAMP1 Reporter HEK-293 DDX35TM Cell Line
Cynomolgus_CALCRL RAMP1 HEK-293 Cell Line	H_CALCRL RAMP1 CHO-K1 Cell Line
H_CALCRL RAMP1 HEK-293 Cell Line	
Anti-CALCRL RAMP1 hIgG2 Antibody(Erenumab)	
GIP:GIPR	
H_GIPR Reporter CHO-K1 Cell Line	H_GIPR Reporter HEK-293 Cell Line
H_GIPR Reporter HEK-293 DDX35TM Cell Line	Cynomolgus_GIPR CHO-K1 Cell Line
Cynomolgus_GIPR HEK-293 Cell Line	H_GIPR CHO-K1 Cell Line
H_GIPR HEK-293 Cell Line	Mouse_GIPR CHO-K1 Cell Line
Mouse_GIPR HEK-293 Cell Line	
Anti-H_GIPR hIgG1 Antibody(AMG-133)	
ACVR2A: ACTRIIB: Active A	
ACVR2A KO HEK-293 Cell Line	Activin A Reporter Cell Line
BRE Reporter 293 Cell Line	H_ACVR2A Reporter Cell Line
H_ACVR2B Reporter Cell Line	ACVR2B KO HEK-293 Cell Line
H_ACVR2A HEK-293(ACVR2B KO) Cell Line	H_ACVR2B CHO-K1 Cell Line
H_ACVR2B HEK-293(ACVR2A KO) Cell Line	
Anti-ACVR2B hIgG1 Antibody(Bimagrumab)	Anti-ACVR2B hIgG1 Antibody(Fab-17G05)
Anti-ACVR2B mIgG2a Antibody(Bimagrumab)	Anti-H_ACVR2B hIgG1 Reference Antibody(Bimbio)
Biotinylated Human ACVR2A Protein; His-Avi Tag	Biotinylated Human ACVR2B Protein; His-Avi Tag
Biotinylated Mouse ACVR2A Protein; His-Avi Tag	Biotinylated Mouse ACVR2B Protein; His-Avi Tag
Human Activin A Protein; His Tag	Human Activin A Protein; His Tag (CHO)

Human Activin B Protein; His Tag	Human ACVR2A Protein; hFc Tag
Human ACVR2A Protein; hFc Tag (Sotatercept)	Human ACVR2A Protein; His Tag
Human ACVR2B Protein; hFc Tag	Human ACVR2B Protein; His Tag
Human latent GDF-8 Protein; His Tag	Mouse ACVR2A Protein; His Tag
Mouse ACVR2B Protein; His Tag	
AMY: CALCR RAMP	
H_CALCR RAMP3(AMY3) Reporter CHO-K1 Cell Line	H_CALCR Reporter CHO-K1 Cell Line
Rat_CALCR Reporter COS-7 Cell Line	H_CALCR β -Arrestin Reporter CHO-K1 Cell Line
MC4R	
H_MC4R Reporter HEK-293 Cell Line	
ASGR1	
H_ASGR1 CHO-K1 Cell Line	H_ASGR1 HEK-293 Cell Line

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.
- Users and their contractors engaged for their benefit may use this material and its derivatives only within the agreed research scope; modification of the material is not permitted, nor may it be distributed, sold, transferred, or otherwise provided to any other entity (including affiliates).
- If use beyond the above scope is required, prior written permission from Genomeditech (Shanghai) Co.,Ltd. must be obtained. For details, please contact Genomeditech (Shanghai) Co.,Ltd.