Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

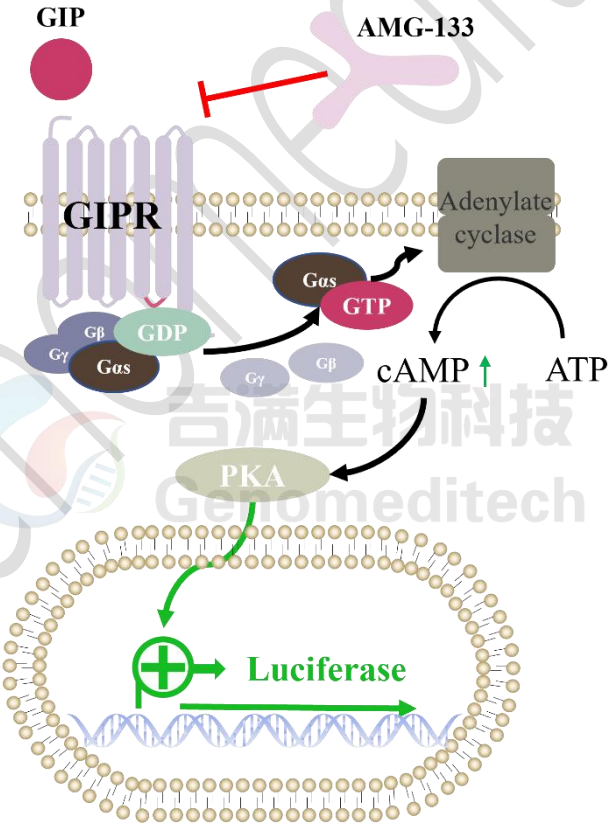
H_GIPR Reporter HEK-293 Cell Line

Catalog number: GM-C24030

Version 3.3.1.260227

Gastric inhibitory polypeptide receptor (GIPR) is a protein encoded by the GIPR gene in the human body, activated by gastric inhibitory polypeptide (GIP), and belongs to a family of G protein-coupled receptors. GIPR is mainly found in the β cells of the pancreas. When GIP activates GIPR, it binds to the heterotrimeric Gs (αβγ), inducing the activation of adenylate cyclase, which increases the levels of cAMP in the cytoplasm. The rise in cAMP activates PKA, leading to the phosphorylation of proteins that regulate gene transcription, causing them to relocate to the nucleus.

H_GIPR Reporter HEK-293 Cell Line is a clonal stable HEK-293 Cell Line constitutively expressing the human GIPR, along with signal-dependent expression of a luciferase reporter gene. The binding of GIP to GIPR activates downstream reporter genes, leading to luciferase expression. The luciferase readout represents the activation level of the signaling pathway and can thus be used for evaluating the in vitro effects of related drugs of GIPR.



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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	DMEM+10% FBS+1% P.S
Growth medium	DMEM+10% FBS+1% P.S+4 μg/mL Blasticidin+0.75 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.
DMEM	Gibco/C11995500BT
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Puromycin	Genomeditech/GM-040401
Blasticidin	Genomeditech/GM-040404
Gastric Inhibitory Peptide (GIP), human	GenScript/RP10795CN
Anti-H_GIPR hIgG1 Antibody(AMG-133)	Genomeditech/GM-84915AB
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

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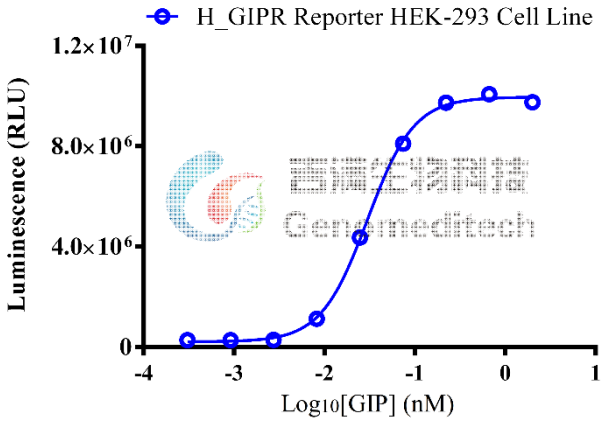
Figures



	H_GIPR Reporter HEK-293 Cell Line
EC50	0.03001

Figure 1 | Response to GIP (Human). H_GIPR Reporter HEK-293 Cell Line (Cat. GM-C24030) at a concentration of 1.5E4 cells/well (96-well format) was stimulated with serial dilutions of GIP(Human) (PHOENIX/027-02) in assay buffer (DMEM + 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 [34]. Data are shown by drug molar concentration.

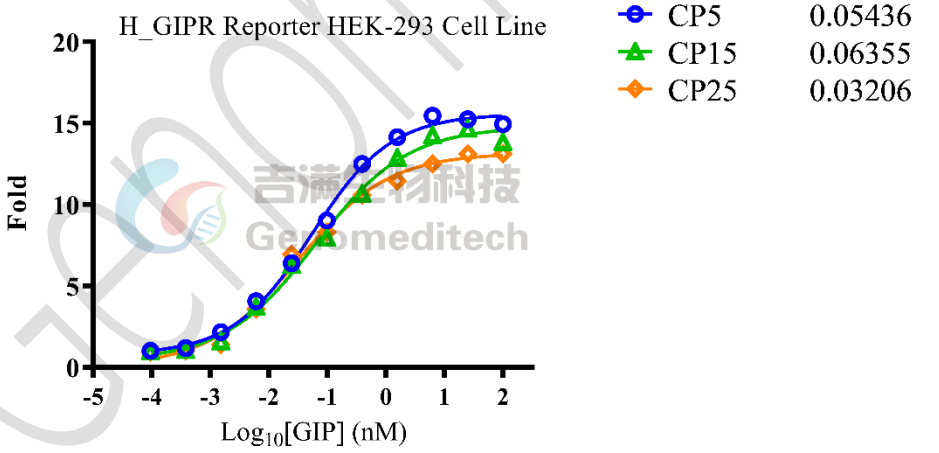
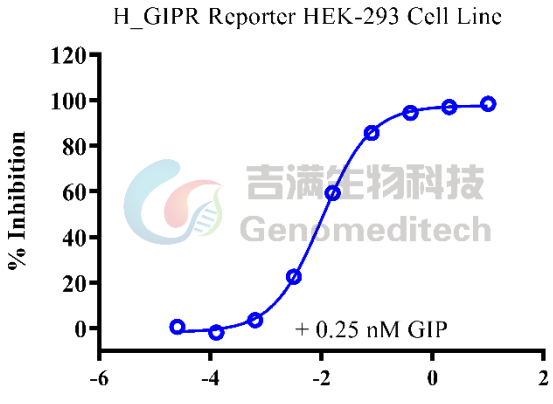
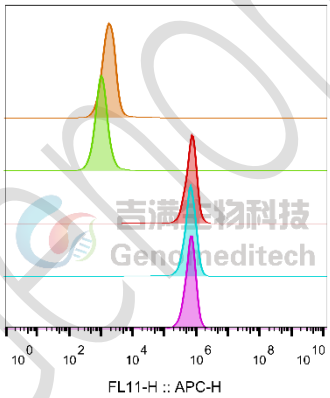


Figure 2 | The passage stability of response to Gastric Inhibitory Peptide (GIP), human. The passage 5, 15 and 25 of H_GIPR Reporter HEK-293 Cell Line (Cat. GM-C24030) at a concentration of 1.5E4 cells/well (96-well format) was stimulated with serial dilutions of Gastric Inhibitory Peptide (GIP) (Genscript/RP10795CN) in assay buffer (DMEM + 1% FBS + 1% P.S) for 16 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug molar concentration.



	H_GIPR Reporter HEK-293
IC50	0.01015

Figure 3 | Response to Anti-H_GIPR hIgG1 Antibody(AMG-133). Serial dilutions of the Anti-H_GIPR hIgG1 Antibody(AMG-133) (Cat. GM-84915AB) was incubated with 1.5E4 cells/well of the H_GIPR Reporter HEK-293 Cell Line (Cat. GM-C24030) in a 96-well plate for 1 hour in assay buffer (DMEM+10% FBS+1% P.S). Subsequently, the GIP(Human) (PHOENIX/027-02) at a concentration of 0.25 nM was added, and the coculture proceeded for an additional 16 hours. Firefly luciferase activity is then measured using the Luciferase Reporter Assay Kit (Genomeditech). The results indicated maximum blocking folds of approximately [24.3]. Data are shown by drug molar concentration.



SampleID	Geometric Mean : FL11-H
293 anti-GIPR+APC-2nd Ab	1871
H_GIPR Reporter 293 H_IgG+APC-2nd Ab	1100
H_GIPR Reporter 293 anti-GIPR+APC-2nd Ab CP3	6.13E5
H_GIPR Reporter 293 anti-GIPR+APC-2nd Ab CP13	5.90E5
H_GIPR Reporter 293 anti-GIPR+APC-2nd Ab CP23	5.69E5

Figure 4 | The passage stability of the H_GIPR Reporter HEK-293 Cell Line (Cat. GM-C24030) was determined by flow cytometry using Anti-H_GIPR hIgG1 Antibody (AMG-133)(Cat. GM-84915AB).

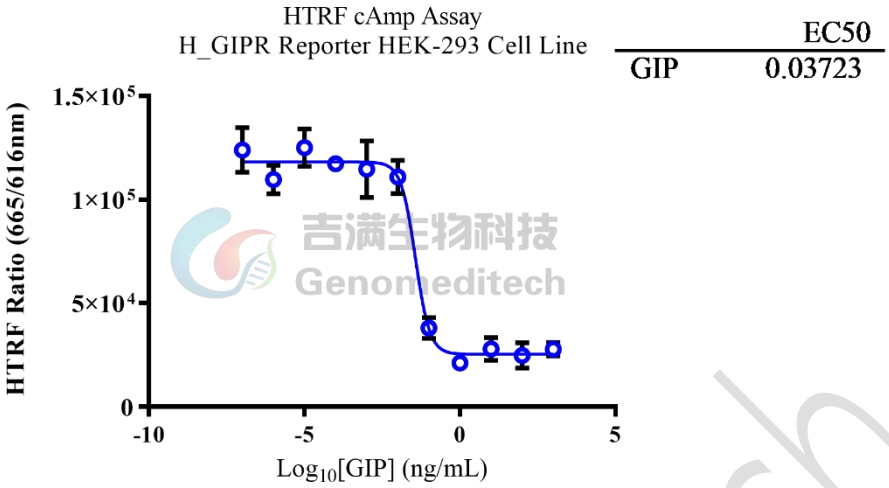


Figure 5 | H_GIPR Reporter HEK-293 cells were seeded at a density of 7500 cells per well in white 384-well microplates (5 µL per well). Gradient-diluted human GIP solutions were then added, and the cells were incubated at room temperature for 30 minutes. The HTRF cAMP Gs Dynamic Detection Kit (Revvity, Cat. No. 62AM4PEB) was used according to the manufacturer's instructions. Fluorescence signals were measured using a Molecular Devices i3x multi-mode plate reader with excitation at 340 nm and emissions detected at 616 nm and 665 nm. The data were expressed as the 665 nm/616 nm × 100,000 (HTRF Ratio) and used to calculate the EC50 value.

Cell Recovery

Recovery Medium: DMEM+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 x 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.

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Cell Freezing

Freezing Medium: 90% FBS+10% DMSO

a) Centrifuge at 176 x 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: DMEM+10% FBS+1% P.S+4 μg/mL Blasticidin+0.75 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) Subculturing is necessary when the cell density reaches 80%. It is recommended to perform subculturing at a ratio of 1:3 to 1:4 every 2-3 days. Ensure that the density does not exceed 80%, as overcrowding can lead to reduced viability due to compression.

b) Remove and discard culture medium.

c) Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.

d) 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 30 to 60 seconds at 37°C).

e) 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.

f) Add 2.0 mL of growth medium to mix well and aspirate cells by gently pipetting.

g) After centrifugation, resuspend the pellet and add appropriate aliquots of the cell suspension to new culture vessels.

h) Incubate cultures at 37°C.

Subcultivation Ratio: A subcultivation ratio of 1:3 - 1:4 is recommended

Medium Renewal: Every 2 to 3 days

Notes

a) Upon initial thawing, a higher number of dead cells is observed, which is a normal phenomenon. Significant improvement is seen after adaptation. Once the cells reach a stable state, the number of dead cells decreases after subculturing and the cell growth rate becomes stable.

b) Ensure that the cell density does not exceed 80%, as overcrowding may lead to reduced viability due to compression.

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	H_GLP1R β-Arrestin Reporter CHO-K1 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	Rat_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)	
GIPR	
H_GIPR Reporter CHO-K1 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	ACVR2B 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
H_ACVR2B Reporter DDX35TM 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 RAMP3(AMY3) β-Arrestin Reporter CHO-K1 Cell Line
H_CALCR Reporter CHO-K1 Cell Line	H_CALCR β-Arrestin Reporter CHO-K1 Cell Line
Rat_CALCR RAMP3(AMY3) Reporter COS-7 Cell Line	Rat_CALCR Reporter COS-7 Cell Line
THRB	
H_THRβ Reporter HEK-293 Cell Line	
MC4R	
H_MC4R Reporter HEK-293 Cell Line	
ASGR1	
H_ASGR1 CHO-K1 Cell Line	H_ASGR1 HEK-293 Cell Line
Cynomolgus ASGR1 Protein; His Tag	Human ASGR1 Protein; His Tag
Mouse ASGR1 Protein; His Tag	

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