Human GIPR (Luc) HEK293 Reporter Cell Data Sheet

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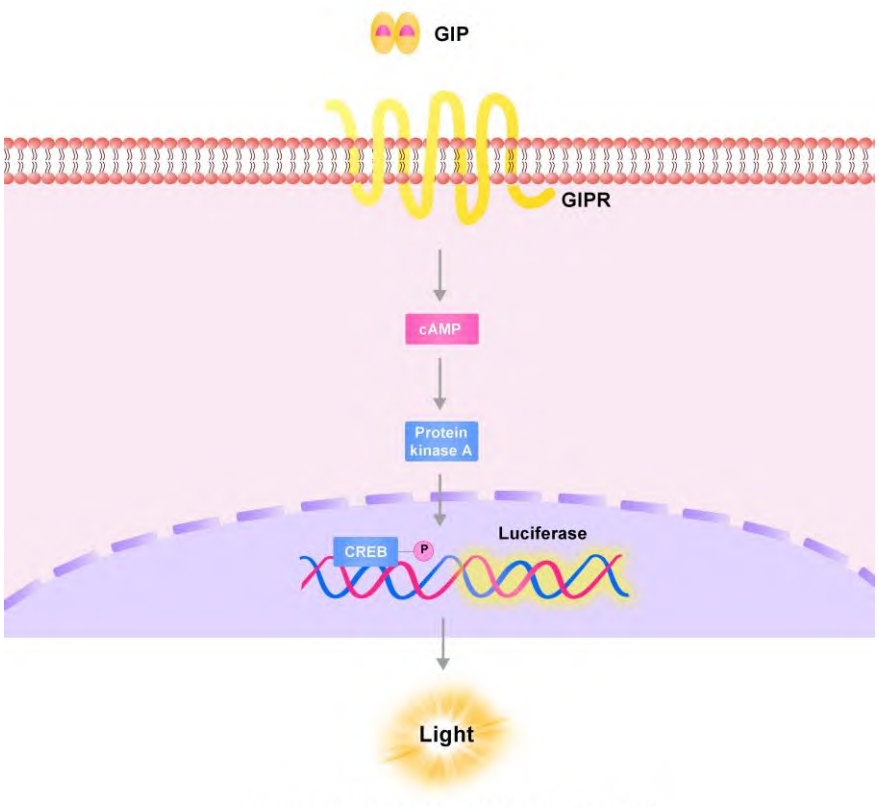
Catalog No.	Size
CHEK-ATF104	2 × (1 vial contains ~5×10^6 cells)

• *Description*

The Human GIPR (Luc) HEK293 Reporter Cell was engineered to not only express CREB signaling response element, but also express the receptor full length human GIPR (Gene ID: 2696), which can drive luciferase expressing systems by GIPR agonists or Glucose-dependent insulinotropic polypeptide (GIP) stimulation. In the absence of agonist or GIP, the GIPR receptor is not activated and luminescence signal is low. In the presence of agonist or GIP, the GIPR pathway-activated luminescence can be detected in a dose-dependent manner.

• *Application*

- Screen for agonists that can bind and activate GIPR.



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• *Cell Line Profile*

Cell line	Human GIPR (Luc) HEK293 Reporter Cell
Host Cell	HEK293
Property	Adherent
Complete Growth Medium	DMEM + 10% FBS
Selection Marker	Puromycin (2 μg/mL) + Hygromycin (20 μg/mL)
Incubation	37℃ with 5% CO_2
Doubling Time	22-24 hours
Transduction Technique	Lentivirus

• *Materials Required for Cell Culture*

- DMEM medium (Gibco, Cat.No.11965-092)
- Fetal bovine serum (CellMax, Cat.No.SA211.02)
- Puromycin (InvivoGen, Cat.No.ant-pr-5b)
- Hygromycin B (Invitrogen, Cat.No.10687010)
- Complete Growth Medium: DMEM + 10% FBS
- Culture Medium: DMEM + 10% FBS, Puromycin (2 μg/mL), Hygromycin (20 μg/mL)
- Freeze Medium: 90% FBS, 10% (V/V) DMSO
- T-75 Culture flask (Corning, 430641)
- Cryogenic storage vials (SARSTEDT, 72.379.007)
- Thermostat water bath
- Centrifuge
- Luna cell counter (Logos Biosystems, LUNA-Ⅱ)
- CO_2 Incubator (Thermo, 3111)
- Biological Safety Cabinet (Thermo, 1389)

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• *Recovery*

1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by spraying with 70% ethanol. All the operations from this point on should be carried out under strict aseptic conditions.
3. Transfer the vial contents to a centrifuge tube containing 4.0 mL complete growth medium and spin at approximately 1000 rpm for 5 minutes.
4. Resuspend cell pellet with 5 mL complete growth medium and transfer the cell suspension into T-75 flask containing 10-15 mL of pre-warmed complete growth medium.
5. Incubate at 37℃ with 5% CO_2 incubator until the cells are ready to be split.

• *Subculture*

1. Remove and discard culture medium.
2. Wash the cells once with sterile PBS.
3. Add 2 mL of 0.25% trypsin to cell culture flask. Place the flask at 37°C for 2-3 minutes, until 90% of the cells have detached.
4. Add 6.0 to 8.0 mL of culture medium and aspirate cells by gently pipetting.
5. Add appropriate aliquots of the cell suspension to new culture vessel.
6. Incubate at 37℃ with 5% CO_2 incubator.

Subcultivation Ratio: A subcultivation ratio of 1:6 to 1:10 is recommended.

Medium Renewal: Every 2 to 3 days.

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• *Cryopreservation*

1. Remove and discard spent medium.
2. Detach cells from the cell culture flasks with 0.25% trypsin.
3. Centrifuge at 1000 rpm for 5 min at RT to pellet cells.
4. Resuspend the cell pellets with complete growth medium and count viable cells.
5. Centrifuge at 1000 rpm for 5 min at RT and resuspend cells in freezing medium to a concentration of 5×10^6 to 1×10^7 cells/mL.
6. Aliquot into cryogenic storage vials. Place vials in a programmable cooler or an insulated box placed in a –80°C freezer overnight, then transferring to liquid nitrogen storage.

• *Storage*

- **Product format:** Frozen
- **Storage conditions:** Liquid nitrogen immediately upon receipt

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- ***Receptor Assay***

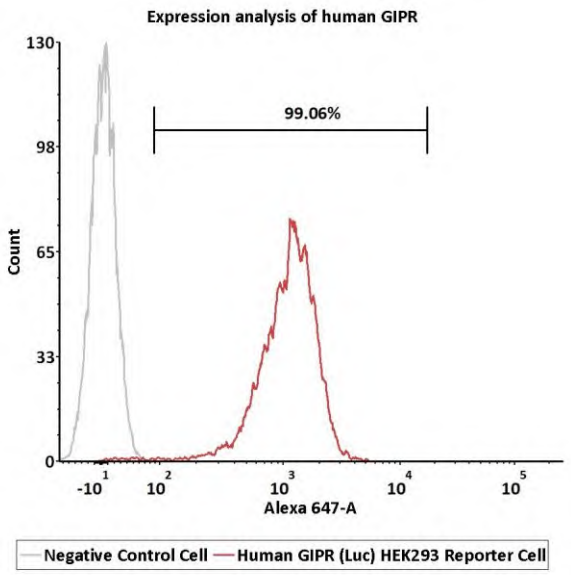

Fig1. Expression analysis of human GIPR on Human GIPR (Luc) HEK293 Reporter Cell by FACS. Cell surface staining was performed on Human GIPR (Luc) HEK293 Reporter Cell or negative control cell using Alexa Fluor® 647-labeled anti-human GIPR antibody.

- ***Application***

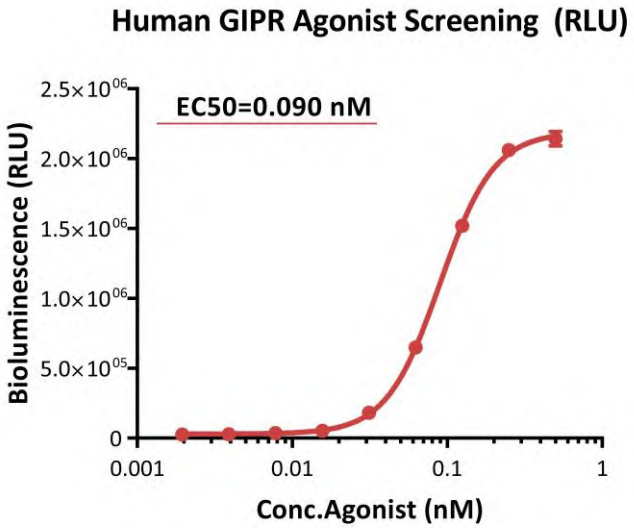

Fig2. Bioactivity analysis of human GIPR agonist (RLU). This reporter cell was incubated with serial dilutions of Tirzepatide (a dual GIPR and GLP-1R agonist). The EC50 of Tirzepatide was approximately 0.090 nM.

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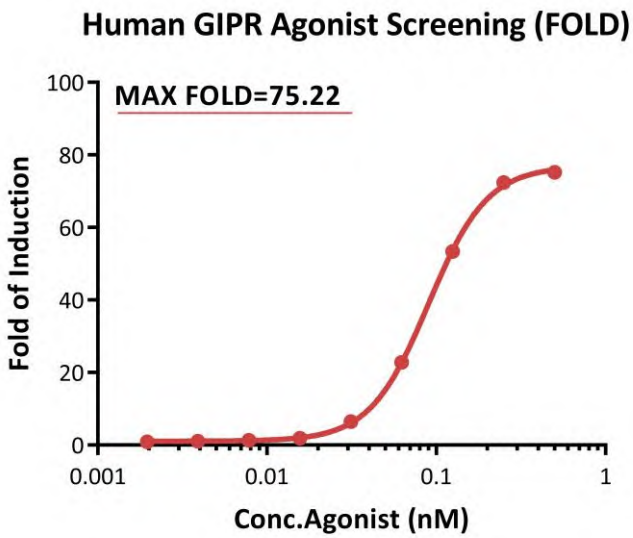
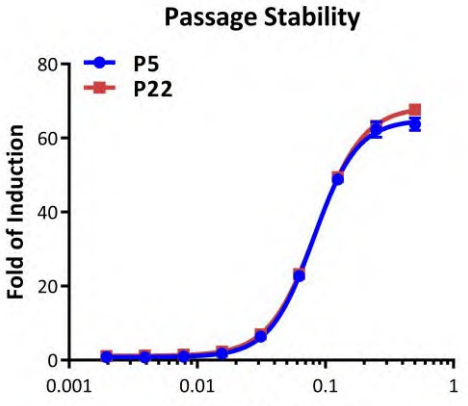


Fig3. Bioactivity analysis of human GIPR agonist (FOLD). This reporter cell was incubated with serial dilutions of Tirzepatide (a dual GIPR and GLP-1R agonist). The max induction fold was approximately 75.22.

- ***Passage Stability***



	P5	P22
EC50 (nM)	0.081	0.085
Max Fold	63.78	67.67

Fig4. Passage stability analysis by Signaling Bioassay. The continuously growing Human GIPR (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of Tirzepatide (a dual GIPR and GLP-1R agonist). Tirzepatide stimulated response demonstrates passage stabilization (fold induction and EC50) across passage 5-22.

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• *License Disclosure*

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• *Related Products*

Products	**Cat.No.**
Human GLP-1R (Luc) HEK293 Reporter Cell	CHEK-ATF096
Human GCGR (Luc) HEK293 Reporter Cell	CHEK-ATF103