# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

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# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

## Human GLP-2R (Luc) HEK293 Reporter Cell

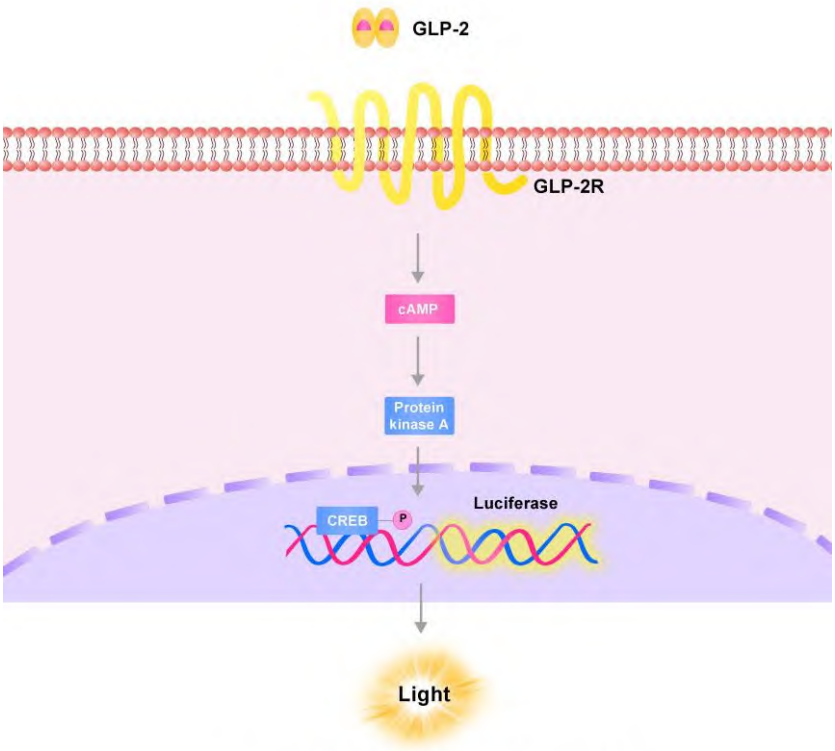
| Catalog No. | Size |
|---|---|
| CHEK-ATF128 | 2 × (1 vial contains ~5×10^6 cells) |

### • *Description*

The Human GLP-2R (Luc) HEK293 Reporter Cell was engineered to not only express CREB signaling response element, but also express the receptor full length human GLP-2R (Uniprot: O95838), which can drive luciferase expressing systems by GLP-2R agonists or glucagon-like peptide 2 (GLP-2) stimulation. In the absence of agonist or GLP-2, the GLP-2R receptor is not activated and luminescence signal is low. In the presence of agonist or GLP-2, the GLP-2R pathway-activated luminescence can be detected in a dose-dependent manner.

### • *Application*

- Screen for agonists that can bind and activate GLP-2R.

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## • *Cell Line Profile*

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

## • *Materials Required for Cell Culture*

- DMEM Medium (BasalMedia, Cat. No. L120KJ)

**Note:** If you are unable to obtain the specified DMEM medium (BasalMedia, Cat. No. L120KJ) in China, you may use an alternative DMEM medium (Gibco, Cat. No. 11965-092) or another suitable medium for culturing.

- Fetal bovine serum (CellMax, Cat. No. SA211.02)
- Puromycin (InvivoGen, Cat. No. ant-pr-5b)
- Hygromycin B (Invitrogen, Cat. No. 10687010)

**Note:** For selection antibiotics, we highly recommend using the specified brand. The activity of antibiotics may vary between manufacturers, so if you choose to use a different brand, it is essential to validate whether the concentration recommended in the culture medium is suitable. Regardless of the brand used, we recommend maintaining a backup culture without selection antibiotics to avoid potential cell loss due to inappropriate antibiotic concentration.

- 0.25% Trypsin-EDTA (1X), Phenol Red (Gibco, Cat. No. 25200-056).
- Penicillin-Streptomycin (Gibco, Cat. No. 15140-122)
- Phosphate Buffered Saline (1X) (HyClone, Cat. No. SH30256.01)
- Complete Growth Medium: DMEM + 10% FBS, 1%P/S
- Culture Medium: DMEM + 10% FBS, Puromycin (2 μg/mL), Hygromycin B (20 μg/mL), 1%P/S
- Freeze Medium: 90% FBS, 10% (V/V) DMSO
- T-75 Culture flask (Corning, Cat. No. 430641)
- Cryogenic storage vials (SARSTEDT, Cat. No. 72.379.007)
- Thermostat water bath
- Centrifuge (Cence, Model: L550)
- Cell counter (MONWEI, Model: SmartCell200A Plus)
- CO2 Incubator (Thermo, Model: 3111)
- Biological Safety Cabinet (Thermo, Model: 1389)

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## • *Recovery*

1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize the risk of contamination, ensure the cap remains out of the water. Thawing should be completed quickly, typically within 3-5 minutes.
2. After thawing, promptly remove the vial from the water bath and decontaminate it by spraying with 70% ethanol. From this point onward, all operations must be performed under strict aseptic conditions.
3. Transfer the contents of the vial to a centrifuge tube containing 4.0 mL of complete growth medium. Centrifuge at approximately 1000 rpm for 5 minutes.
4. Resuspend the cell pellet with 5 mL complete growth medium and transfer the cell suspension into a T-75 flask containing 10-15 mL of pre-warmed complete growth medium.
5. Incubate at 37°C with 5% $CO_2$ incubator until the cells are ready to be split.

## • *Subculture*

1. Cell viability may be low after thawing, and full recovery may take up to a week. Monitor the cells daily until the culture reaches 80-90% confluency. At this point, remove and discard the spent medium. Avoid allowing the cells to become over-confluent to ensure optimal cell health.
2. Wash the cells once with sterile PBS. Avoid adding PBS directly onto the cell surface.
3. Add 2 mL of 0.25% Trypsin-EDTA to the T-75 flask. Place the flask at 37°C for 2-3 minutes, until 90% of the cells have detached. Monitor under a microscope to avoid over-trypsinization.
4. Add 6.0 to 8.0 mL of culture medium using a pipette and gently rinse the cells from the surface of the T-75 flask. Gently pipette up and down several times to achieve a single cell suspension without cell clumps.
5. Transfer appropriate aliquots of the cell suspension to a new T-75 flask. A subcultivation ratio of 1:4 to 1:8 is recommended. Adjust the ratio based on your specific culture system.
6. Incubate at 37°C with 5% $CO_2$ incubator.
7. When the cell culture reaches 80-90% confluency, proceed to the next subculture. Avoid over-confluency, as this may negatively impact cell performance in subsequent passages.

**Note:** After recovery, maintain the cells for 1-2 passages in the complete growth medium not containing the selection marker, if the cells are in good condition, transition to the culture medium containing the selection marker during subculturing.

# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

## • *Cryopreservation*

1. When the cell culture reaches 80-90% confluency, remove and discard the spent medium.
2. Wash the cells once with sterile PBS. Avoid adding PBS directly onto the cell surface.
3. Add 2 mL of 0.25% Trypsin-EDTA to the T-75 flask. Place the flask at 37°C for 2-3 minutes, until 90% of the cells have detached. Monitor under a microscope to avoid over-trypsinization.
4. Add 6.0 to 8.0 mL of complete growth medium using a pipette and gently rinse the cells from the surface of the T-75 flask. Gently pipette up and down several times to achieve a single cell suspension without cell clumps. Count the viable cells.
5. Transfer the cell suspension to a centrifuge tube. Centrifuge at 1000 rpm for 5 min at room temperature to pellet the cells.
6. After centrifugation, discard the supernatant. Resuspend the cells in ice cold freezing medium to a concentration of $5\times10^6$ to $1\times10^7$ cells/mL.
7. Aliquot the cell suspension into cryogenic storage vials. Place the vials in a programmable cooler or an insulated box placed in a –80°C freezer overnight, then transfer to liquid nitrogen storage for long-term storage.

**Note:** It is recommended to establish a cell bank at the earliest possible passage for long-term use.

## • *Storage Condition*

Cells must be received in a frozen state on dry ice and should be transferred to liquid nitrogen or a –80°C freezer immediately upon receipt. If stored in a –80°C freezer, it is recommended to limit the storage period to no more than two weeks. For long-term preservation, transfer the cells to liquid nitrogen is highly recommended.

# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

- ***Receptor Assay***

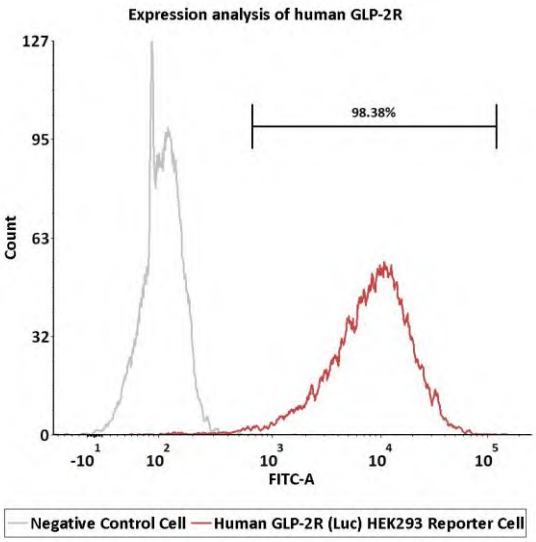



**Fig1. Expression analysis of human GLP-2R on Human GLP-2R (Luc) HEK293 Reporter Cell by FACS.** Cell surface staining was performed on Human GLP-2R (Luc) HEK293 Reporter Cell or negative control cell using anti-human GLP-2R antibody followed by staining with FITC anti-mouse IgG antibody.

- ***Application***

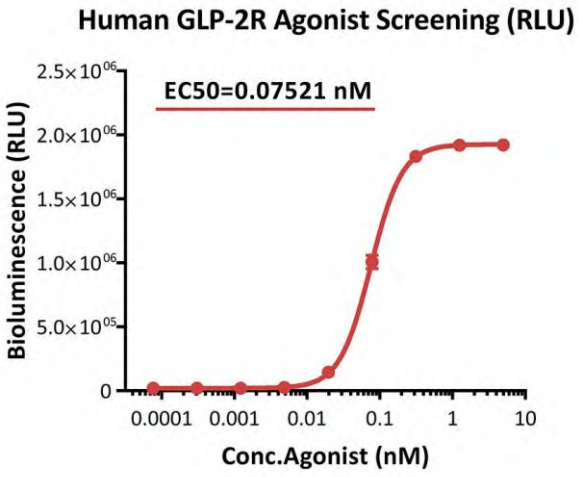



**Fig2. Bioactivity analysis of human GLP-2R agonist (RLU).** This reporter cell was incubated with serial dilutions of human GLP-2R agonist. The EC50 of human GLP-2R agonist (Glepaglutide) was approximately 0.07521 nM.

# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

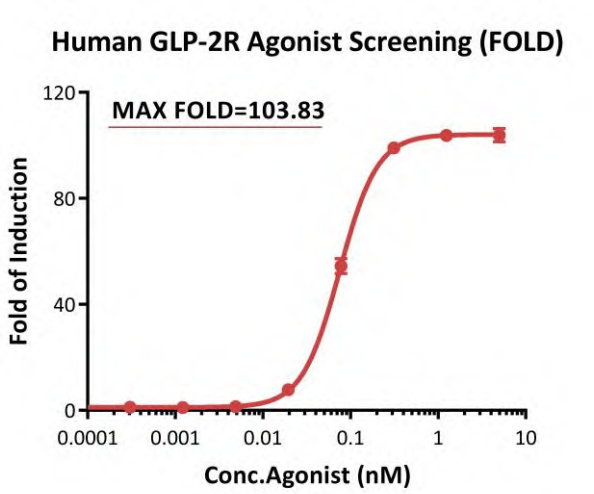
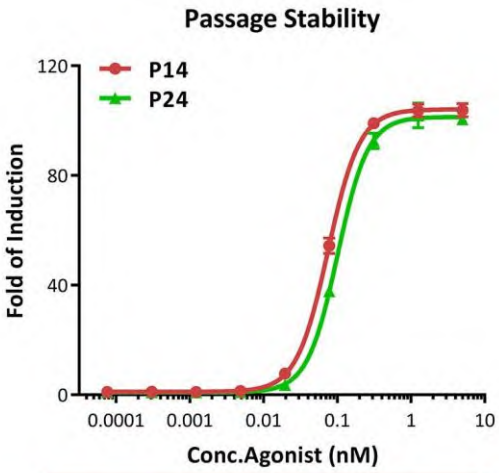



**Fig3. Bioactivity analysis of human GLP-2R agonist (FOLD).** This reporter cell was incubated with serial dilutions of human GLP-2R agonist. The max induction fold of human GLP-2R agonist (Glepaglutide) was approximately 103.83.

- ***Passage Stability***




| | P14 | P24 |
|---|---|---|
| EC50(nM) | 0.07521 | 0.1013 |
| Max Fold | 103.83 | 101.89 |

**Fig4. Passage stability analysis by Signaling Bioassay.** The continuously growing Human GLP-2R (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human GLP-2R agonist (Glepaglutide). Glepaglutide stimulated response demonstrates passage stabilization (fold induction and EC50) across passage 14-24.

# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

## • *Related Products*

| Products | Cat.No. |
|---|---|
| Human TSLP R (Luc) HEK293 Reporter Cell | CHEK-ATF045 |
| STAT3 (Luc) HEK293 Reporter Cell | CHEK-ATF047 |
| HEK293/Human CD40 Ligand / TNFSF5 Stable Cell Line | CHEK-ATP041 |
| HEK293/Human OX40 / TNFRSF4 / CD134 Stable Cell Line | CHEK-ATP053 |
| HEK293/Human OX40 Ligand / TNFSF4 Stable Cell Line | CHEK-ATP054 |
| Human IL-5 R alpha/CD131 (Luc) HEK293 Reporter Cell | CHEK-ATF074 |
| HEK293/FcRn (FCGRT & B2M) Cell Line | CHEK-ATP079 |
| Human IL-21 R (Luc) HEK293 Reporter Cell | CHEK-ATF051 |
| Human IL-11 R alpha (Luc) HEK293 Reporter Cell | CHEK-ATF052 |
| Human IL-4 R alpha/IL-13 R alpha 1 (Luc) HEK293 Reporter Cell | CHEK-ATF075 |
| CHO/Human TSHR Stable Cell Line | SCCHO-ATP085 |
| HEK293/Human TSHR Stable Cell Line | CHEK-ATP086 |
| Human IL-31 RA/OSMR (Luc) HEK293 Reporter Cell | CHEK-ATF094 |
| Human IL-10 R alpha/IL-10 R beta (Luc) HEK293 Reporter Cell | CHEK-ATF095 |
| Human CD40 (Luc) HEK293 Reporter Cell | CHEK-ATF097 |
| Human IL-7 R alpha/CD132 (Luc) HEK293 Reporter Cell | CHEK-ATF099 |
| NIH-3T3/Human IGF-1 R Stable Cell Line Development Service | CNIH-ATP102 |
| Human HVEM (Luc) HEK293 Reporter Cell | CHEK-ATF105 |
| Human BTLA (Luc) Jurkat Reporter Cell | SCJUR-STF106 |
| Human IGF-1 R (Luc) HEK293 Reporter Cell | CHEK-ATF107 |
| Human RANK (Luc) HEK293 Reporter Cell | CHEK-ATF129 |
| HEK293/FcRn (FCGRT & B2M), GFP Tag Stable Cell Line | CHEK-ATP132 |
| Human IL-17 RA/IL-17 RC (Luc) HEK293 Reporter Cell | CHEK-ATF133 |
| Human OX40 (Luc) HEK293 Reporter Cell | CHEK-ATF135 |
| Human IL-2 R beta/IL-2 R gamma (Luc) HEK293 Reporter Cell | CHEK-ATF136 |
| HEK293/Human TL1A Stable Cell Line | CHEK-ATP142 |
| Human IL-23 R/IL-12 R beta 1(Luc) HEK293 Reporter Cell | CHEK-ATF166 |
| Human IL-22 R alpha 1/IL-10 R beta (Luc) HEK293 Reporter Cell | CHEK-ATF167 |
| Human DR3 (TL1A receptor) (Luc) Jurkat Reporter Cell | SCJUR-STF178 |

# Human GLP-2R (Luc) HEK293 Reporter Cell Data Sheet

## • *Related Products*

| Products | Cat.No. |
|---|---|
| Human TSHR (Luc) HEK293 Reporter Cell | CHEK-ATF187 |
| CHO/Mouse FCGRT-P2A-mGFP&B2M Stable Cell Line | SCCHO-ATP193 |
| Human PTH1R (Luc) HEK293 Reporter Cell | CHEK-ATF194 |
| MDCK/Mouse FCGRT-P2A-mGFP&B2M Stable Cell Line Development Service | SCMDC-ATP196 |
| Human TACI (Luc) HEK293 Reporter Cell | CHEK-ATF197 |
| HEK293/Membrane-Bound Human TL1A Stable Cell Line | CHEK-ATF198 |
| Human IL-2 R alpha & IL-2 R beta & IL-2 R gamma (Luc) HEK293 Reporter Cell | CHEK-ATF201 |
| Human IL-1 R1 & IL-1 RAcP (Luc) HEK293 Reporter Cell | CHEK-ATF202 |
| Raji/Membrane-Bound Human TL1A Stable Cell Line | SCRAJ-STT204 |
| HEK293/Human MRGPRX2 Stable Cell Line | CHEK-ATP214 |
| CHO/Human MRGPRX2 Stable Cell Line | SCCHO-ATP215 |
| Human TPO R (Luc) HEK293 Reporter Cell | CHEK-ATF226 |