Human FGF-21 (Luc) HEK293 Reporter Cell Data Sheet

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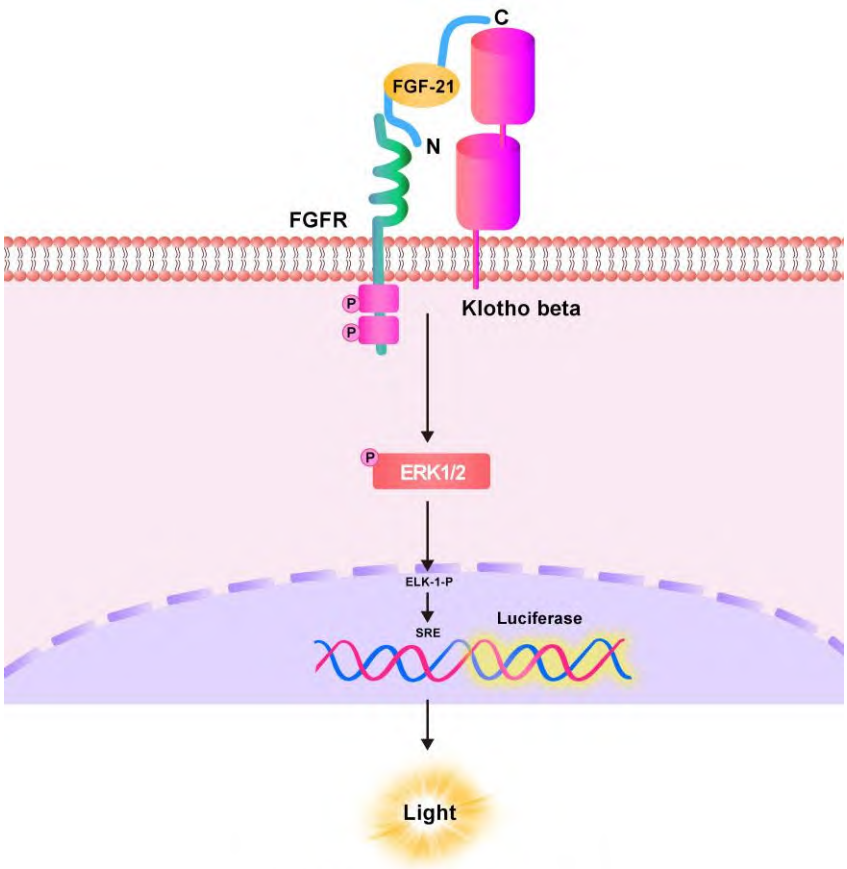
Catalog No.	Size
CHEK-ATF163	2 × (1 vial contains ~5×10^6 cells)

• *Description*

The Human FGF-21 (Luc) HEK293 Reporter Cell was engineered to not only express SRE signaling response element, but also express the receptor human Klotho beta (Gene ID: 152831). When stimulated with human FGF-21 protein, receptor-mediated signaling can drive SRE-mediated luminescence.

• *Application*

- Bioactivity detection of human FGF-21 fusion protein.



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• *Cell Line Profile*

Cell line	Human FGF-21 (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)
- 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)
- CO_2 Incubator (Thermo, Model: 3111)
- Biological Safety Cabinet (Thermo, Model: 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.

Note: After recovery for 1-2 generations with the complete growth medium not containing the selection marker, if the cell state is well, changing to the culture medium containing the selection marker.

Human FGF-21 (Luc) HEK293 Reporter Cell Data Sheet

• *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

Human FGF-21 (Luc) HEK293 Reporter Cell Data Sheet

- ***Receptor Assay***

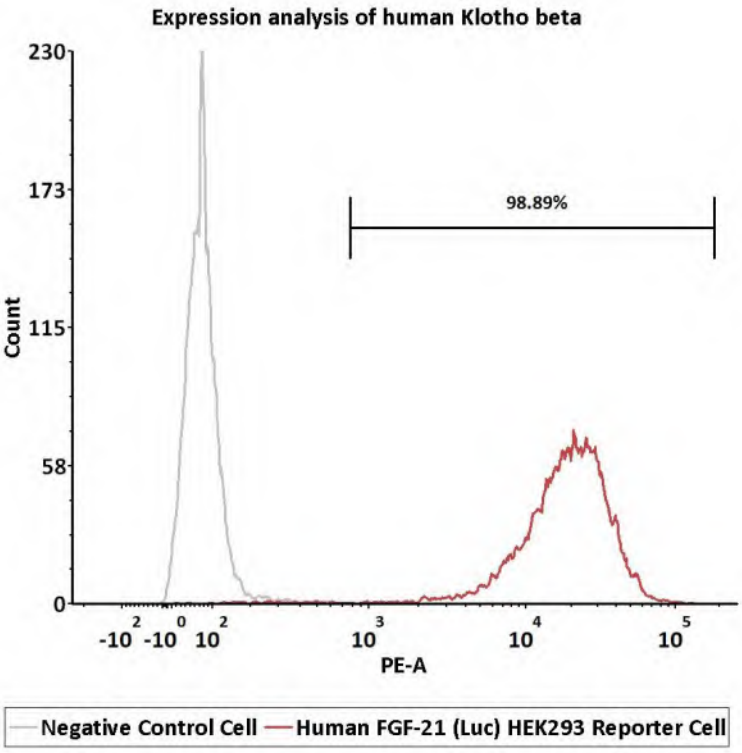


Fig1. Expression analysis of human Klotho beta on Human FGF-21 (Luc) HEK293 Reporter Cell by FACS. Cell surface staining was performed on Human FGF-21 (Luc) HEK293 Reporter Cell or negative control cell using anti-human Klotho beta antibody followed by staining with PE anti-human IgG antibody.

Human FGF-21 (Luc) HEK293 Reporter Cell Data Sheet

- ***Signaling Bioassay***

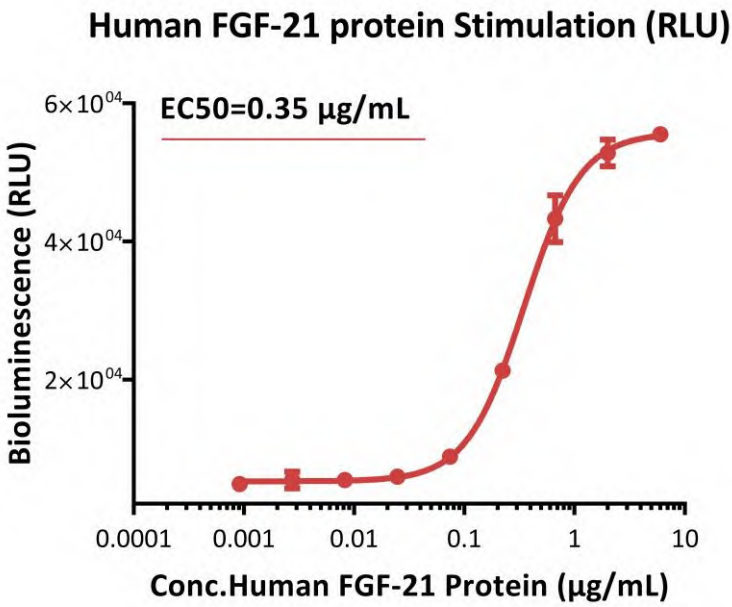


Fig2. Response to human FGF-21 protein (RLU). The Human FGF-21 (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human FGF-21 protein (Cat. No. FG1-H5243). The EC50 was approximately 0.35 μg/mL.

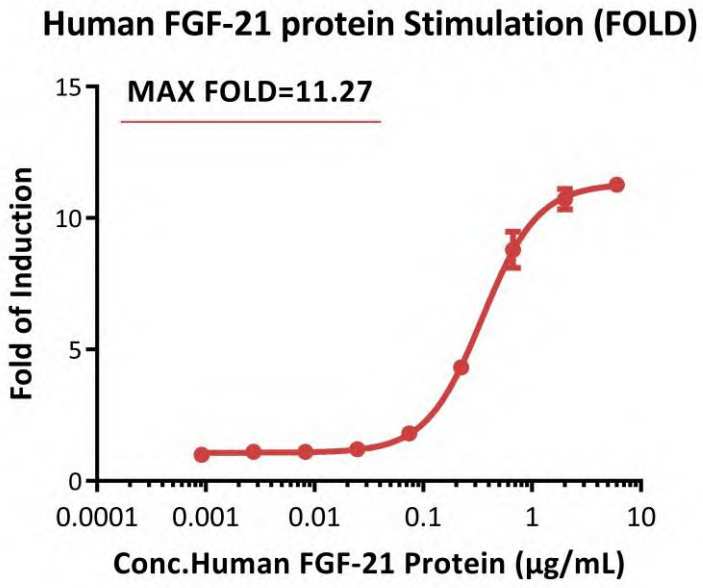
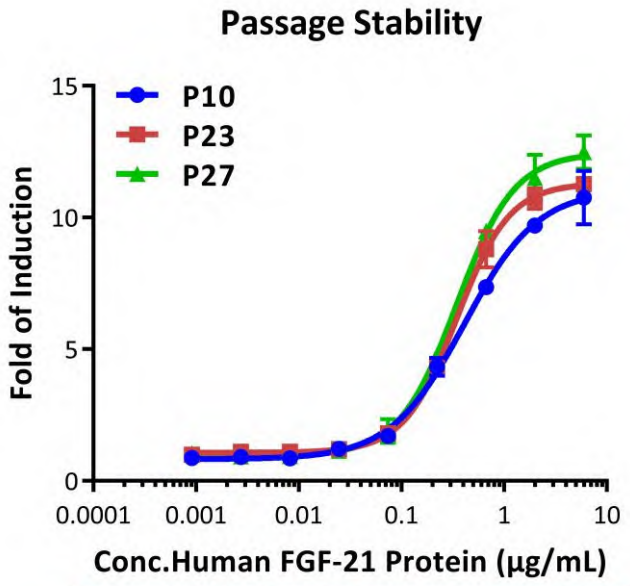


Fig3. Response to human FGF-21 protein (FOLD). The Human FGF-21 (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human FGF-21 protein (Cat. No. FG1-H5243). The max induction fold was approximately 11.27.

Human FGF-21 (Luc) HEK293 Reporter Cell Data Sheet

• ***Passage Stability***



	P10	P23	P27
EC50 (μg/mL)	0.41	0.35	0.35
Max Fold	10.76	11.27	12.48

Fig4. Passage stability analysis by Signaling Bioassay. The continuously growing Human FGF-21 (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human FGF-21 protein (Cat. No. FG1-H5243). Human FGF-21 protein stimulated response demonstrates passage stabilization (fold induction and EC50) across passage 10-27.

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• *Related Products*

Products	Cat. No.
Human FGF-21 Protein, His Tag	FG1-H5243
Human THRB (Luc) HEK293 Reporter Cell	CHEK-ATF181
Human THRA (Luc) HEK293 Reporter Cell	CHEK-ATF180
Human GLP-1R (Luc) HEK293 Reporter Cell	CHEK-ATF096
Human GCGR (Luc) HEK293 Reporter Cell	CHEK-ATF103
Human GIPR (Luc) HEK293 Reporter Cell	CHEK-ATF104
HEK293/Human GLP-1R Stable Cell Line (High Expression)	CHEK-ATP160
HEK293/Human GLP-1R Stable Cell Line (Medium Expression)	CHEK-ATP161
HEK293/Human GLP-1R Stable Cell Line (Low Expression)	CHEK-ATP162
HEK293/Human GLP-1R&GIPR Stable Cell Line	CHEK-ATP205
HEK293/Human GIPR Stable Cell Line (High Expression)	CHEK-ATP206
HEK293/Human GIPR Stable Cell Line (Medium Expression)	CHEK-ATP207
HEK293/Human GIPR Stable Cell Line (Low Expression)	CHEK-ATP208
HEK293/Human GCGR Stable Cell Line (High Expression)	CHEK-ATP209
HEK293/Human GCGR Stable Cell Line (Medium Expression)	CHEK-ATP210
HEK293/Human GCGR Stable Cell Line (Low Expression)	CHEK-ATP211
Human Activin RII (Luc) HEK293 Reporter Cell	CHEK-ATF164
HEK293/Human ASGR1&ASGR2 Stable Cell Line	CHEK-ATP172
HEK293/Human GPR75 Stable Cell Line	CHEK-ATP174
HEK293/Human ASGR1 Stable Cell Line	CHEK-ATP080