TCF/LEF (Luc) HEK293 Reporter Cell Data Sheet

TCF/LEF (Luc) HEK293 Reporter Cell

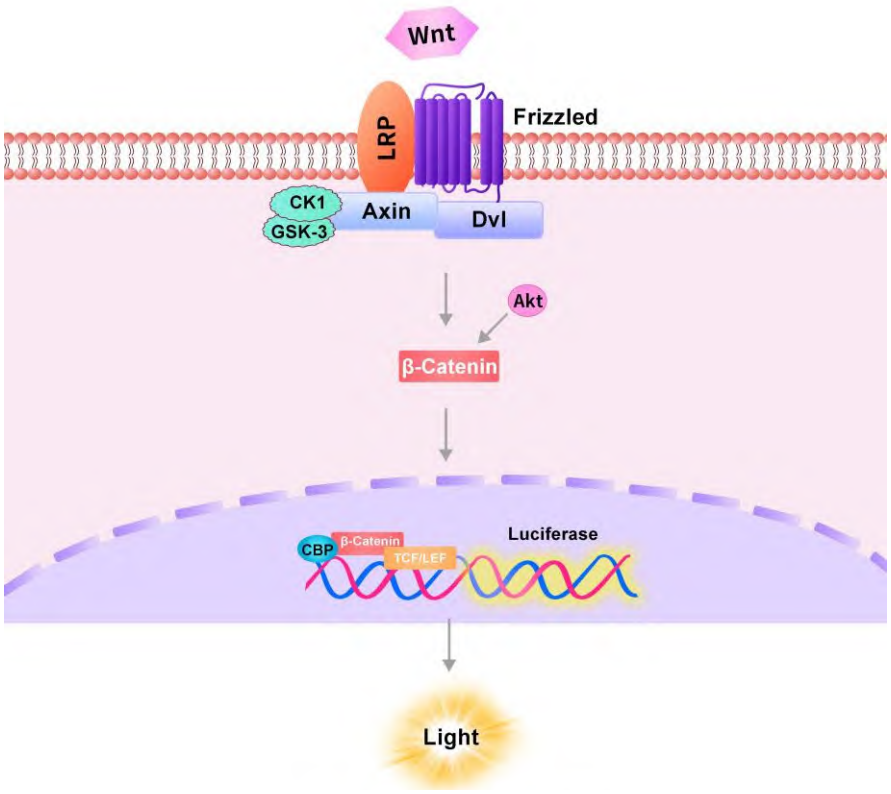
Catalog No.	Size
CHEK-ATF114	2 × (1 vial contains ~5×10^6 cells)

• *Description*

The TCF/LEF (Luc) HEK293 Reporter Cell was engineered to express TCF/LEF signaling response element driving luciferase expressing systems, designed for monitoring the activity of the Wnt/ß-catenin signaling pathway. When stimulated with human Wnt protein, receptor-mediated signaling can drive TCF/LEF-mediated luminescence. Inhibition of biological effect of human Wnt protein by corresponding inhibitors results in a decrease in luminescence.

• *Application*

- Monitor Wnt signaling pathway activity.
- Screen for Wnt/β-catenin targeted agents.



TCF/LEF (Luc) HEK293 Reporter Cell Data Sheet

• *Cell Line Profile*

Cell line	TCF/LEF (Luc) HEK293 Reporter Cell
Host Cell	HEK293
Property	Adherent
Complete Growth Medium	DMEM + 10% FBS
Selection Marker	Puromycin (2 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)
- Complete Growth Medium: DMEM + 10% FBS
- Culture Medium: DMEM + 10% FBS, Puromycin (2 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)

TCF/LEF (Luc) HEK293 Reporter Cell Data Sheet

• *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°C 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°C 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.

TCF/LEF (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

TCF/LEF (Luc) HEK293 Reporter Cell Data Sheet

- ***Signaling Bioassay***

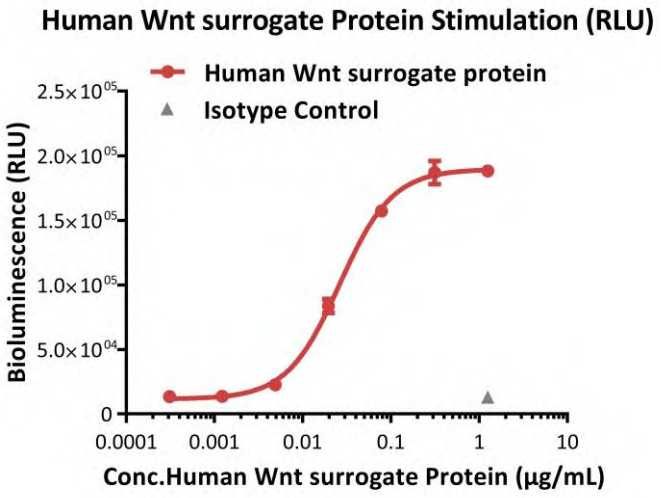


Fig1.Response to human Wnt surrogate protein (RLU). This reporter cell was incubated with serial dilutions of human Wnt surrogate protein. The EC_{50} was approximately 0.02628 μg/mL.

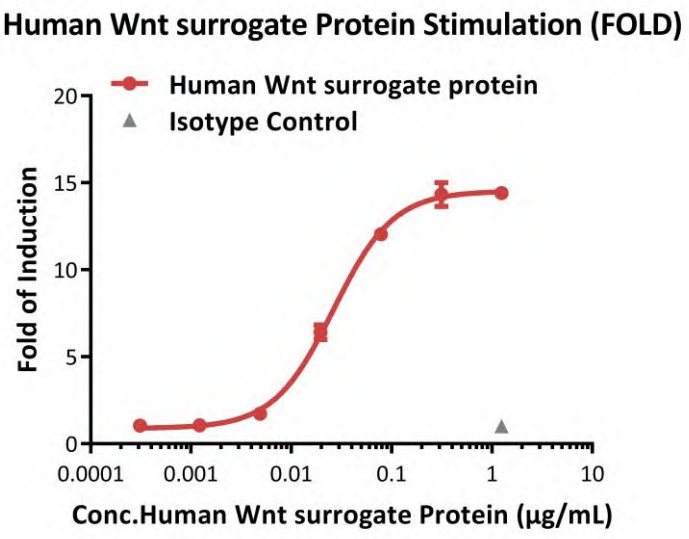


Fig2.Response to human Wnt surrogate protein (FOLD). This reporter cell was incubated with serial dilutions of human Wnt surrogate protein. The max induction fold was approximately 14.

TCF/LEF (Luc) HEK293 Reporter Cell Data Sheet

- ***Application***

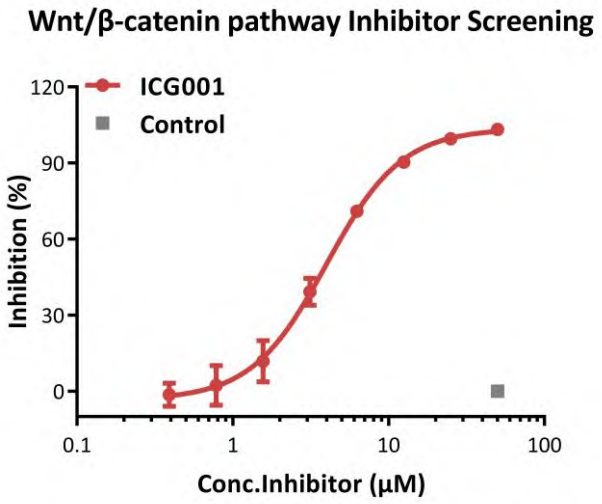
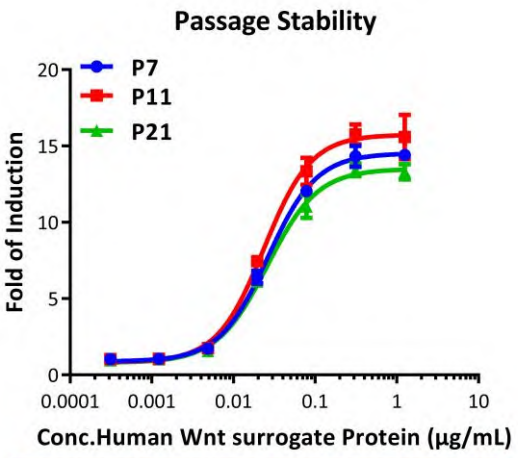


Fig3. Inhibition of human Wnt surrogate protein-induced reporter activity by Wnt/β-catenin pathway Inhibitor. This reporter cell was incubated with serial dilutions of inhibitors in the presence of human Wnt surrogate protein with a final concentration of 0.050 μg/mL. The EC_{50} of Wnt/β-catenin pathway Inhibitor (ICG001) was approximately 3.993 μM.

TCF/LEF (Luc) HEK293 Reporter Cell Data Sheet

• *Passage Stability*



	P7	P11	P21
EC50 (μg/mL)	0.02629	0.02361	0.02589
Max Fold	14.41	15.76	13.44

Fig4. Passage stability analysis by Signaling Bioassay. The continuously growing TCF/LEF (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human Wnt surrogate protein. Human Wnt surrogate protein stimulated response demonstrates passage stabilization (fold induction and EC50) across passage 7-21.

• *License Disclosure*

This reporter cell is provided for research use only. This license does not permit you to share, distribute, sell, sublicense, or otherwise make this reporter cell available for use to other laboratories, departments, research institutions, hospitals, universities, or biotech companies. The license does not permit modification of this reporter cell in any way. Inappropriate use or distribution of this reporter cell will result in revocation of the license. Modifications of this cell line, transfer to another facility, or commercial use of the cells may require a separate license and additional fees. AcroBiosystems does not warrant the suitability of this reporter cell for any particular use, and does not accept any liability in connection with the handling or use of this reporter cell.