NF-kB (Luc) Jurkat Reporter Cell Data Sheet

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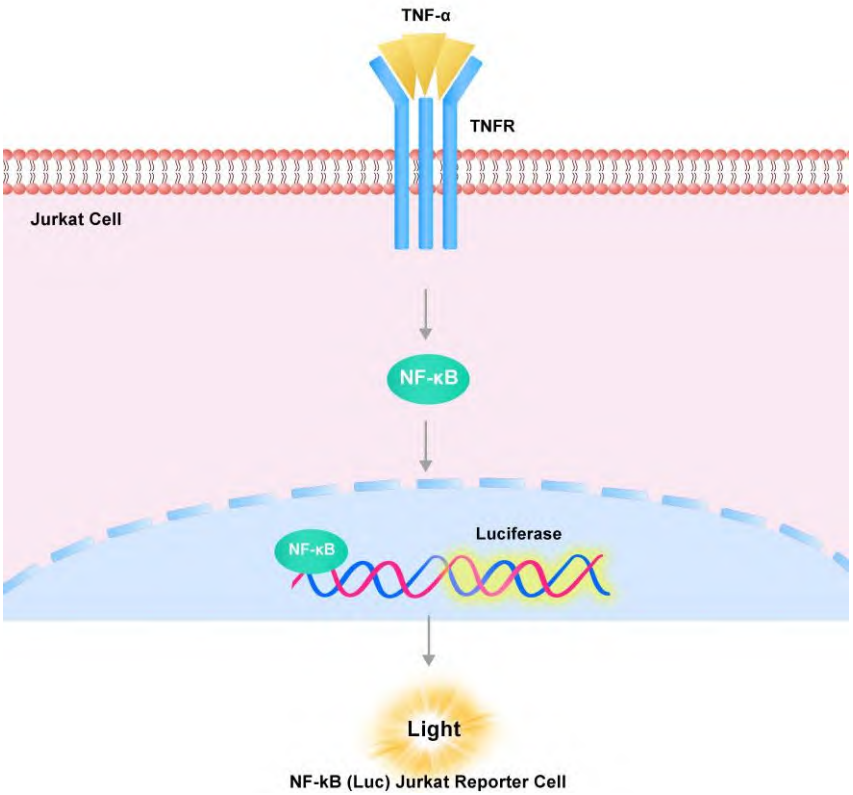
Catalog No.	Size
SCJUR-STF113	2 × (1 vial contains ~5×10^6 cells)

• *Description*

The NF-kB (Luc) Jurkat Reporter Cell was engineered with the NF-kB response element driving luciferase expressing systems. The receptors expressing endogenously or transfected on this reporter cell were activated by corresponding ligands binding, transducing intracellular signals resulting in NF-kB-RE mediated luminescence.

• *Application*

- The discovery of activators or inhibitors by the NF-kB signaling bioactivity
- Transfection host for some receptors concerning the NF-kB signaling pathway



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• *Cell Line Profile*

Cell line	NF-kB (Luc) Jurkat Reporter Cell
Host Cell	Jurkat
Property	Suspension
Complete Growth Medium	RPMI-1640 + 10% FBS
Selection Marker	NA
Incubation	37℃ with 5% CO_2
Doubling Time	16-20 hours
Transduction Technique	Lentivirus

• *Materials Required for Cell Culture*

- RPMI Medium 1640 (Gibco, Cat. No. 11875-093)
- Fetal bovine serum (CellMax, Cat. No. SA211.02)
- Penicillin-Streptomycin (Gibco, Cat. No. 15140-122)
- Complete Growth Medium: RPMI-1640 + 10% FBS, 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 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.
4. Count viable cells and centrifuge at approximately 1000 rpm for 5 minutes.
5. Discard the supernatant and resuspend the cell pellet in an appropriate amount of fresh complete growth medium. Adjust the cell density of the suspension to 1×10^6 viable cells/mL and transfer cells to an appropriate size vessel.
6. Incubate at 37°C with 5% CO_2 incubator.

• *Subculture*

Cell viability may be low after thawing, and full recovery (viability >90%) may take up to 1-2 weeks. Once the cell density reaches approximately 2×10^6 viable cells/mL, adjust the density to a range of 2×10^5-5×10^5 viable cells/mL by either adding the fresh complete growth medium or replacing the existing complete growth medium. Avoid allowing the cell density to exceed 3×10^6 cells/mL, as this may negatively impact cell performance in subsequent passages. T-75 flasks are recommended for subculturing.

• **Subculturing Frequency:** It is recommended to subculture every 3-4 days, adjusting the frequency based on the cell density in your specific culture system.

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• *Cryopreservation*

1. Count viable cells and harvest the cell suspension.
2. Centrifuge at 1000 rpm for 5 min at room temperature and resuspend cells in ice cold freezing medium to a concentration of 5×10^6 to 1×10^7 cells/mL.
3. 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*

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.

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- ***Signaling Bioassay***

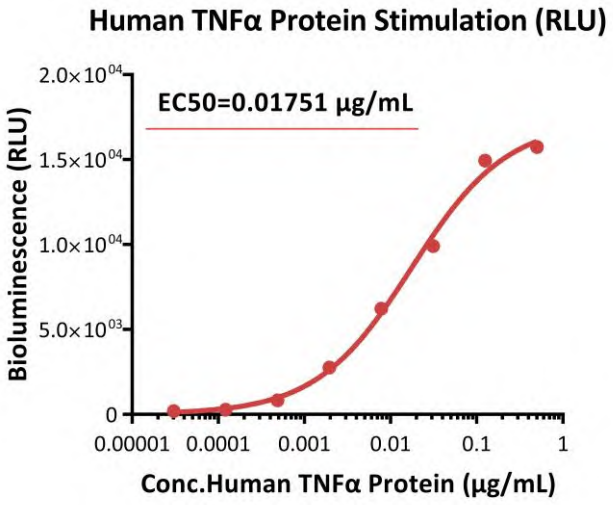


Fig1. Response to human TNFα protein (RLU). The NF-kB (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human TNFα protein (Cat. No. TNA-H4211). The EC50 was approximately 0.01751 μg/mL.

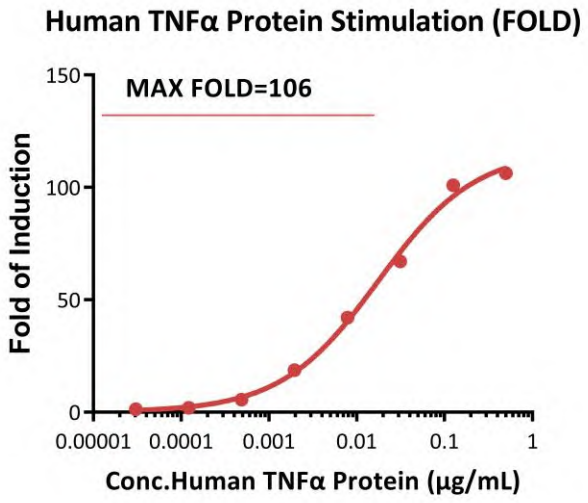
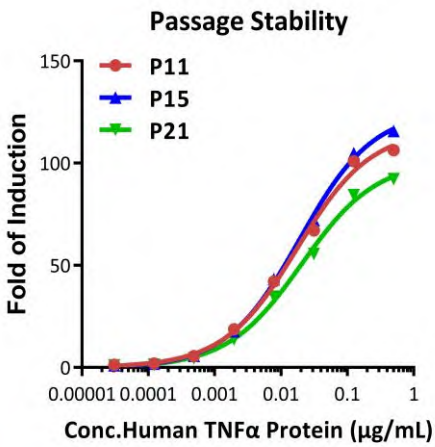


Fig2. Response to human TNFα protein (FOLD). The NF-kB (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human TNFα protein (Cat. No. TNA-H4211). The max induction fold was approximately 106.

- ***Passage Stability***



	P11	P15	P21
EC50 (μg/mL)	0.01751	0.01915	0.02052
Max Fold	106	116	92

Fig3. Passage stability analysis by Signaling Bioassay. The continuously growing NF-kB (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human TNFα protein (Cat. No. TNA-H4211). Human TNFα protein stimulated response demonstrates passage stabilization (fold induction and EC50) across passage 11-21.

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- ***Related Products***

Products	Cat.No.
Human TNFα protein	TNA-H4211
Human VEGF R2 (Luc) HEK293 Reporter Cell	CHEK-ATF044
NF-κB (Luc) HEK293 Reporter Cell	CHEK-ATF048
Human EGF R (Luc) HEK293 Reporter Cell	CHEK-ATF049
NFAT (Luc) HEK293 Reporter Cell	CHEK-ATF050
HEK293/Human CCR5 Stable Cell Line	CHEK-ATP043
HEK293/Human SIRP alpha Stable Cell Line	CHEK-ATP051
HEK293/Human CD20 Stable Cell Line	CHEK-ATP034
HEK293/Human ASGR1 Stable Cell Line	CHEK-ATP080
HEK293/Human TMPRSS2-HA-P2A-mGFP Stable Cell Line	CHEK-ATP101
TCF/LEF (Luc) HEK293 Reporter Cell	CHEK-ATF114
NY-ESO-1 specific TCR-HEK293 cell line	CHEK-STP114
Human NKp46 (Luc) Jurkat Reporter Cell	SCJUR-STF130
ISRE (Luc) HEK293 Reporter Cell	CHEK-ATF134
HEK293/Human CCR8 Stable Cell Line	CHEK-ATP140
Human c-MET (Luc) HEK293 Reporter Cell	CHEK-ATF144
Human TGF-beta R (Luc) HEK293 Reporter Cell	CHEK-ATF145
HEK293/Human ASGR1&ASGR2 Stable Cell Line	CHEK-ATP172
Human BMP (Luc) HEK293 Reporter Cell	CHEK-ATF188
HEK293/Human IDH1(132H)-P2A-mGFP&Luc Stable Cell Line	CHEK-ATP199
HEK293/Human IDH1(132R)-P2A-mGFP&Luc Stable Cell Line	CHEK-ATP200