

# Human TACI (Luc) HEK293 Reporter Cell Data Sheet

## Human TACI (Luc) HEK293 Reporter Cell

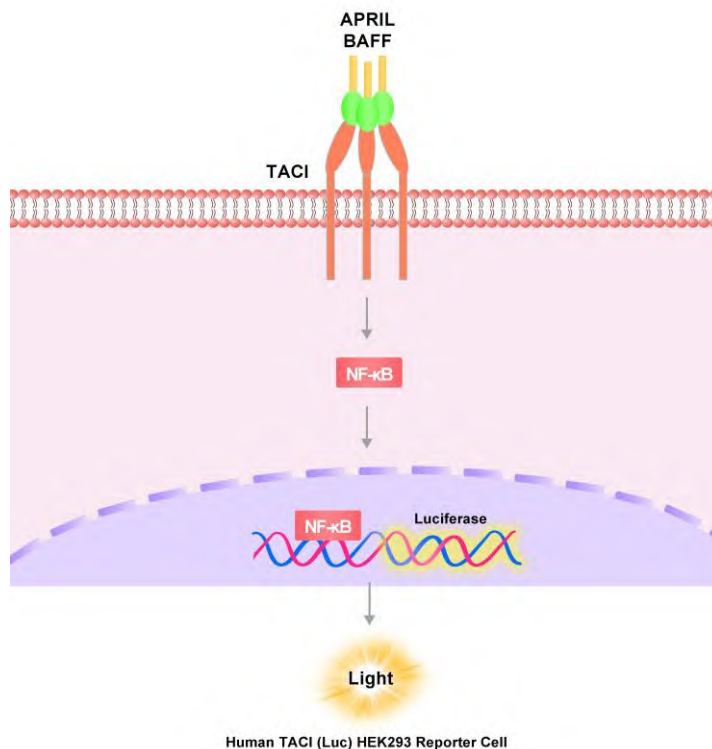
Catalog No.	Size
CHEK-ATF197	2 × (1 vial contains ~5×10 <sup>6</sup> cells)

### • Description

The Human TACI (Luc) HEK293 Reporter Cell was engineered to not only express NF-κB signaling response element, but also express the receptors full length human TACI (Gene ID: 23495). When stimulated with human APRIL or BAFF protein, receptor-mediated signaling can drive NF-κB-mediated luminescence. Neutralization of biological effect of the ligand-receptor interaction by corresponding antibody or fusion protein results in a decrease in luminescence.

### • Application

- Screen for neutralizing antibodies or fusion proteins blocking the stimulation of human APRIL or BAFF protein.



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## • Cell Line Profile

<b>Cell line</b>	Human TACI (Luc) HEK293 Reporter Cell
<b>Host Cell</b>	HEK293
<b>Property</b>	Adherent
<b>Complete Growth Medium</b>	DMEM + 10% FBS
<b>Selection Marker</b>	Puromycin (2 µg/mL) + Hygromycin (20 µg/mL)
<b>Incubation</b>	37°C with 5% CO <sub>2</sub>
<b>Doubling Time</b>	22-24 hours
<b>Transduction Technique</b>	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)
- 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 (20 µg/mL), 1% PS
- 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<sub>2</sub> 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°C with 5% CO<sub>2</sub> 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<sub>2</sub> 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.

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### • *Cryopreservation*

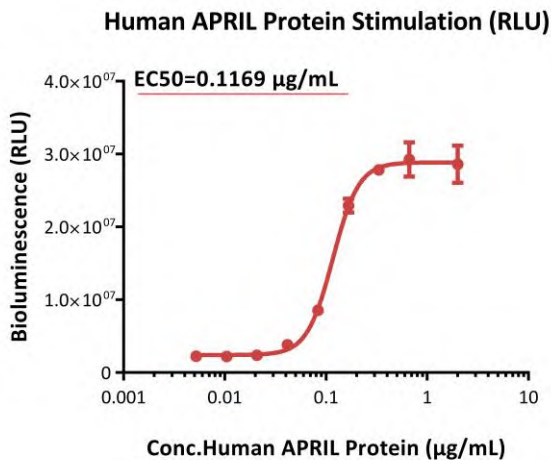
1. Remove and discard spent medium.
2. Detach cells from the cell culture flasks with 0.25% trypsin.
3. Centrifuge at 1000 rpm for 5 min at RT to pellet cells.
4. Resuspend the cell pellets with complete growth medium and count viable cells.
5. Centrifuge at 1000 rpm for 5 min at RT and resuspend cells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

### • *Storage*

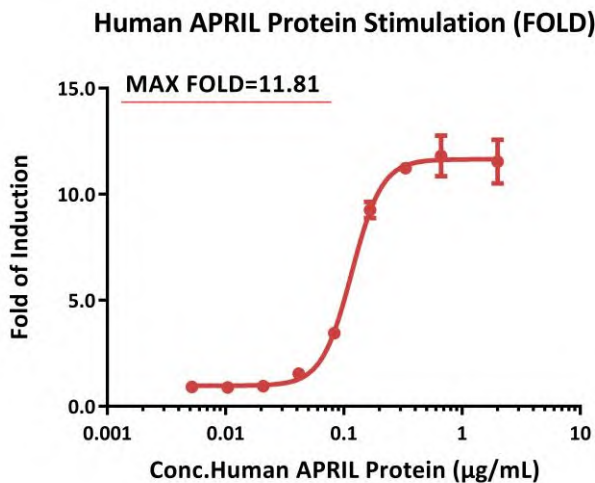
- **Product format:** Frozen
- **Storage conditions:** Liquid nitrogen immediately upon receipt

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• *Signaling Bioassay*

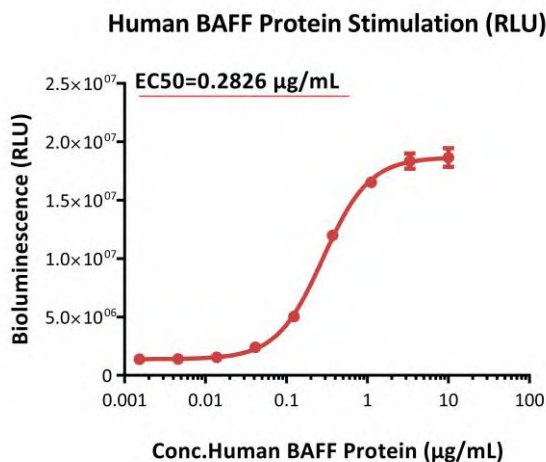


**Fig1. Response to human APRIL protein (RLU).** The Human TACI (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human APRIL protein (Cat. No. APL-H52D1). The EC50 was approximately 0.1169 µg/mL.

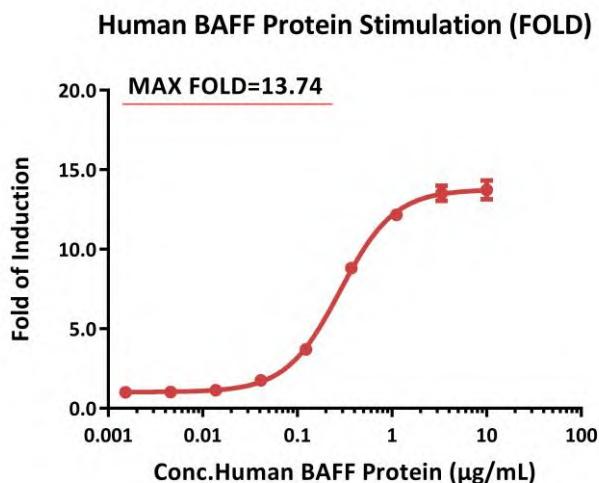


**Fig2. Response to human APRIL protein (FOLD).** The Human TACI (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human APRIL protein (Cat. No. APL-H52D1). The max induction fold was approximately 11.81.

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**Fig3. Response to human BAFF protein (RLU).** The Human TACI (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human BAFF protein (Cat. No. BAF-H52D4). The EC50 was approximately 0.2826 µg/mL.

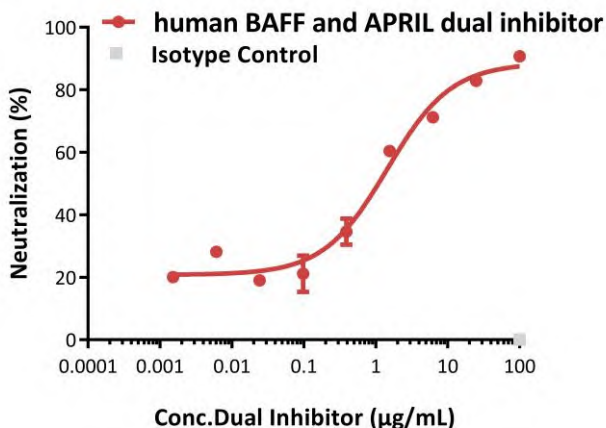


**Fig4. Response to human BAFF protein (FOLD).** The Human TACI (Luc) HEK293 Reporter Cell was stimulated with serial dilutions of human BAFF protein (Cat. No. BAF-H52D4). The max induction fold was approximately 13.74.

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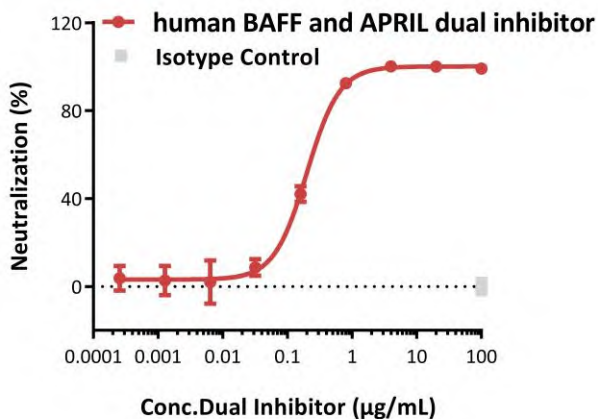
• *Application*

Human BAFF and APRIL Dual Inhibitor Screening



**Fig5. Inhibition of human APRIL protein-induced reporter activity by human BAFF and APRIL dual inhibitor.** The Human TACI (Luc) HEK293 Reporter Cell was incubated with serial dilutions of inhibitors in the presence of human APRIL protein (Cat. No. APL-H52D1) with a final concentration of 0.1 µg/mL. The EC50 of human BAFF and APRIL dual inhibitor (Telitacept) is approximately 1.452 µg/mL.

Human BAFF and APRIL Dual Inhibitor Screening



**Fig6. Inhibition of human BAFF protein-induced reporter activity by human BAFF and APRIL dual inhibitor.** The Human TACI (Luc) HEK293 Reporter Cell was incubated with serial dilutions of inhibitors in the presence of human BAFF protein (Cat. No. BAF-H52D4) with a final concentration of 0.3 µg/mL. The EC50 of human BAFF and APRIL dual inhibitor (Telitacept) is approximately 0.1998 µg/mL.

# Human TACI (Luc) HEK293 Reporter Cell Data Sheet

**• License Disclosure**

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**• Related Products**

**Products**

**Cat.No.**

Human APRIL / TNFSF13 Protein, His,Flag  
Tag, active trimer (MALS verified)

APL-H52D1

Human BAFF / TNFSF13B / CD257 Protein,  
His,Flag Tag, active trimer (MALS verified)

BAF-H52D4