

## Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

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# Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

## Human BCMA (Luc) Jurkat Reporter Cell

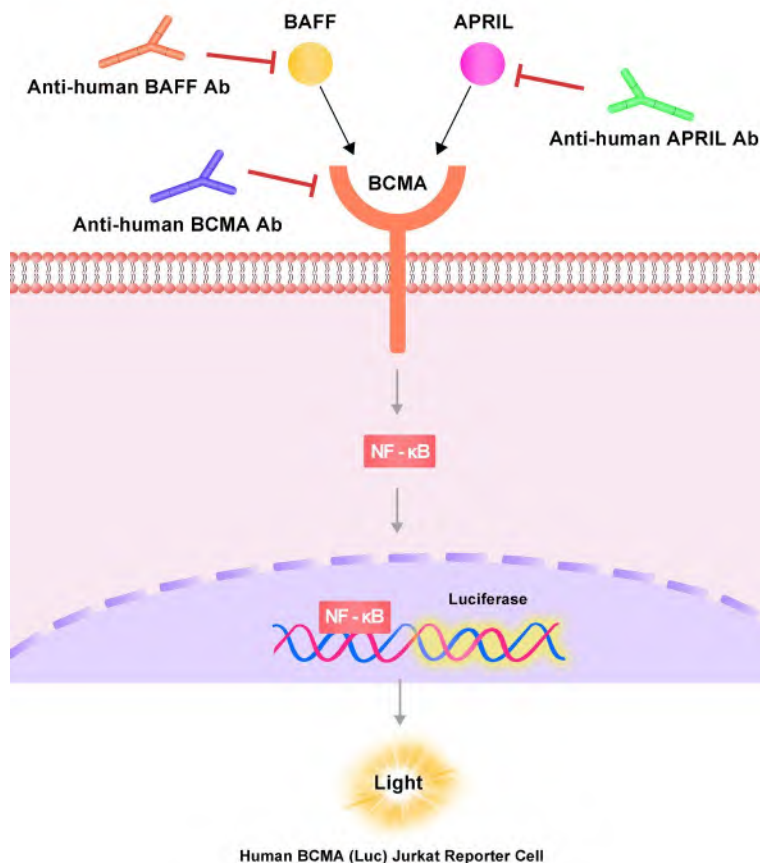
Catalog No.	Size
CJUR-STF295	2 × (1 vial contains ~5×10 <sup>6</sup> cells)

### • Description

The Human BCMA (Luc) Jurkat Reporter Cell was engineered to not only express NF-κB signaling response element, but also express the receptor full length human BCMA (Uniprot: Q02223-1). 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 results in a decrease in luminescence.

### • Application

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



# Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

## • Cell Line Profile

Cell line	Human BCMA (Luc) Jurkat Reporter Cell
Host Cell	Jurkat
Property	Suspension
Complete Growth Medium	RPMI-1640 + 10% FBS
Selection Marker	Puromycin (2 µg/mL) + G418 (200 µg/mL)
Incubation	37°C with 5% CO <sub>2</sub>
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)
- Puromycin (InvivoGen, Cat. No. ant-pr-5b)
- G418 (Invivogen, Cat.No.ant-gn-5)

**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.

- Penicillin-Streptomycin (Gibco, Cat. No. 15140-122)
- Complete Growth Medium: RPMI-1640 + 10% FBS, 1%P/S
- Culture Medium: RPMI-1640 + 10% FBS, Puromycin (2 µg/mL), G418 (200 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<sub>2</sub> 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  $1 \times 10^6$  viable cells/mL and transfer cells to an appropriate size vessel.
6. Incubate at 37°C with 5% CO<sub>2</sub> 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  $2 \times 10^6$  viable cells/mL, adjust the density to a range of  $2 \times 10^5$ - $5 \times 10^5$  viable cells/mL by either adding the fresh **culture medium** or replacing the existing culture medium. Avoid allowing the cell density to exceed  $3 \times 10^6$  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.

**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 (viability >90%), transition to the **culture medium containing the selection marker** during subculturing.

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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  $5 \times 10^6$  to  $1 \times 10^7$  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  $-80^\circ\text{C}$  freezer overnight, then transfer to liquid nitrogen storage for long-term storage.

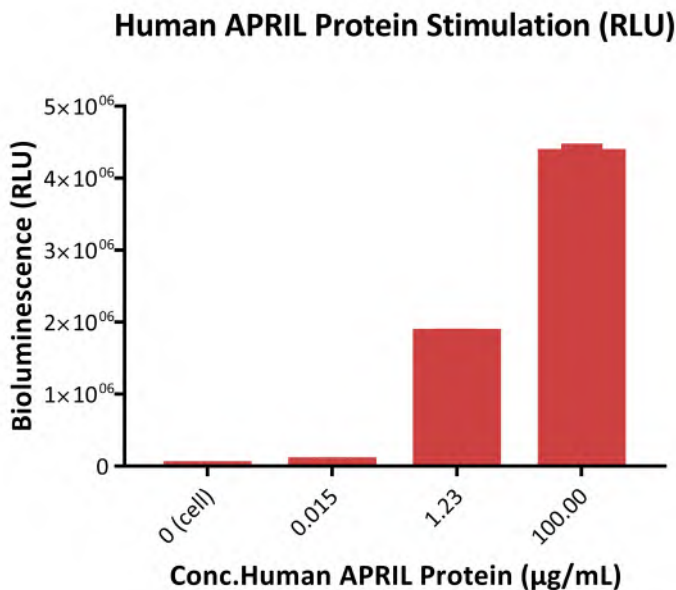
**Note:** It is recommended to establish a cell bank at the earliest possible passage for long-term use.

### • *Storage*

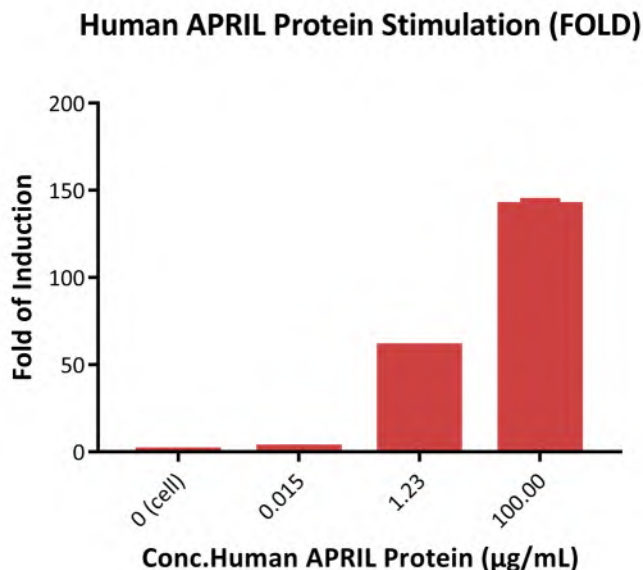
Cells must be received in a frozen state on dry ice and should be transferred to liquid nitrogen or a  $-80^\circ\text{C}$  freezer immediately upon receipt. If stored in a  $-80^\circ\text{C}$  freezer, it is recommended to limit the storage period to no more than two weeks. For long-term preservation,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

# Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

• *Signaling Bioassay*

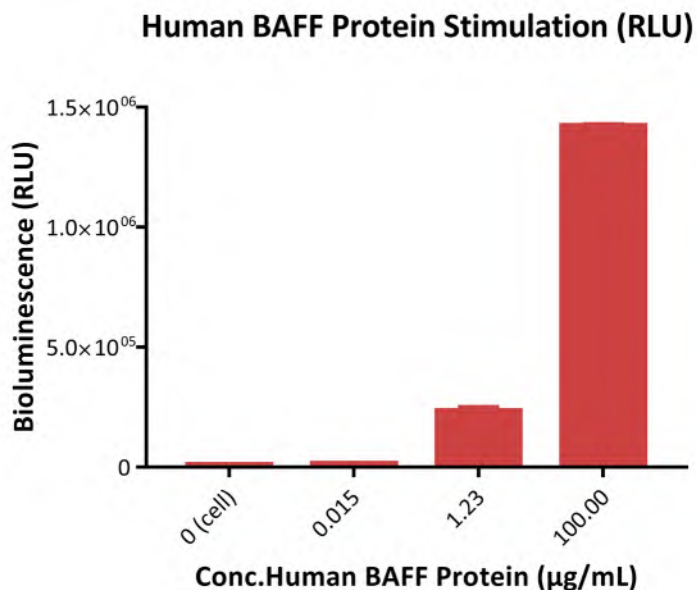


**Fig1. Response to human APRIL protein (RLU).** The Human BCMA (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human APRIL protein (Cat. No. APL-H52D1). The max induction fold was approximately 141.73.

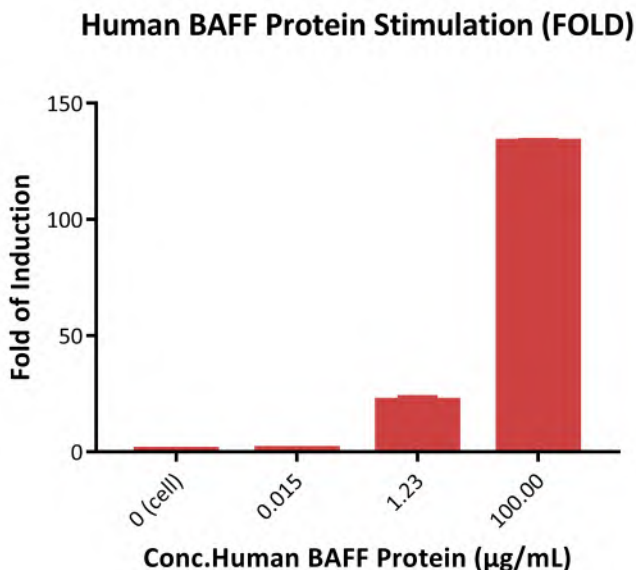


**Fig2. Response to human APRIL protein (FOLD).** The Human BCMA (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human APRIL protein (Cat. No. APL-H52D1). The max induction fold was approximately 141.73.

## Human BCMA (Luc) Jurkat Reporter Cell Data Sheet



**Fig3. Response to human BAFF protein (RLU).** The Human BCMA (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human BAFF protein (Cat. No. BAF-H52D4). The max induction fold was approximately 133.55.

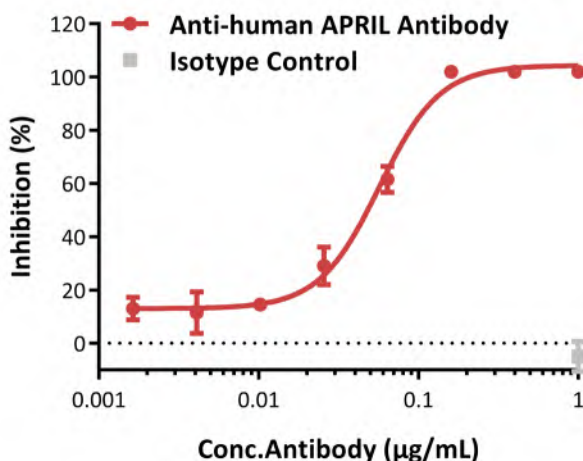


**Fig4. Response to human BAFF protein (FOLD).** The Human BCMA (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of human BAFF protein (Cat. No. BAF-H52D4). The max induction fold was approximately 133.55.

# Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

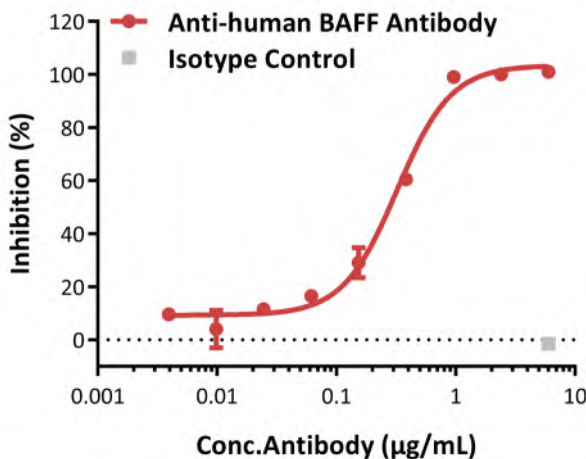
• *Application*

## Anti-human APRIL Neutralization Antibody Screening



**Fig5. Inhibition of human APRIL protein-induced reporter activity by anti-human APRIL neutralizing antibody.** The Human BCMA (Luc) Jurkat Reporter Cell was incubated with serial dilutions of antibodies in the presence of human APRIL protein (Cat. No. APL-H52D1) with a final concentration of 0.05 µg/mL. The EC50 of anti-human APRIL neutralizing antibody (Sibeprenlimab) is approximately 0.06 µg/mL.

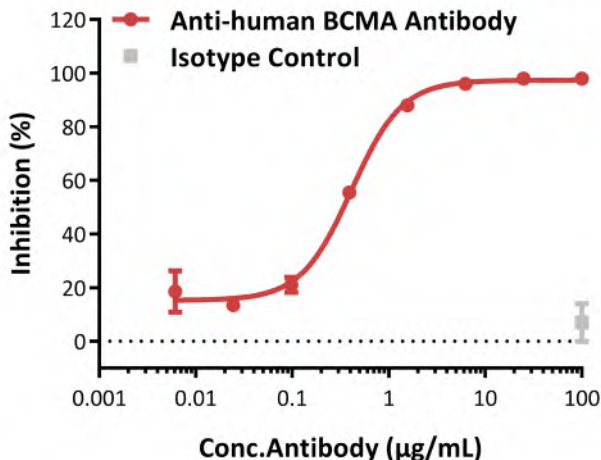
## Anti-human BAFF Neutralization Antibody Screening



**Fig6. Inhibition of human BAFF protein-induced reporter activity by anti-human BAFF neutralizing antibody.** The Human BCMA (Luc) Jurkat Reporter Cell was incubated with serial dilutions of antibodies in the presence of human BAFF protein (Cat. No. BAF-H52D4) with a final concentration of 1 µg/mL. The EC50 of anti-human BAFF neutralizing antibody (Belimumab) is approximately 0.32 µg/mL.

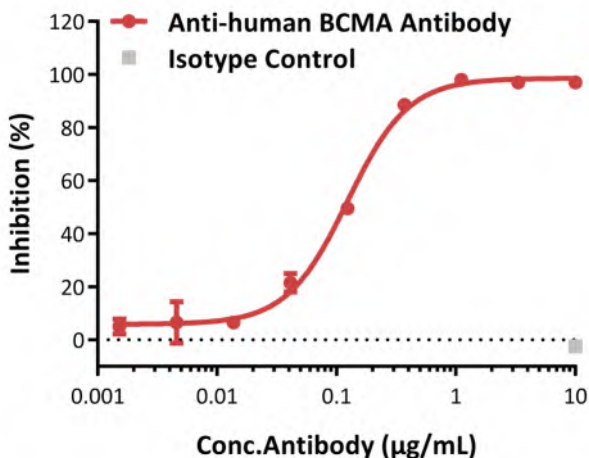
## Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

### Anti-human BCMA Neutralization Antibody Screening



**Fig7. Inhibition of human APRIL protein-induced reporter activity by anti-human BCMA neutralizing antibody.** The Human BCMA (Luc) Jurkat Reporter Cell was incubated with serial dilutions of antibodies in the presence of human APRIL protein (Cat. No. APL-H52D1) with a final concentration of 0.05 µg/mL. The EC<sub>50</sub> of anti-human BCMA neutralizing antibody (Belantamab) is approximately 0.41 µg/mL.

### Anti-human BCMA Neutralization Antibody Screening



**Fig8. Inhibition of human BAFF protein-induced reporter activity by anti-human BCMA neutralizing antibody.** The Human BCMA (Luc) Jurkat Reporter Cell was incubated with serial dilutions of antibodies in the presence of human BAFF protein (Cat. No. BAF-H52D4) with a final concentration of 1 µg/mL. The EC<sub>50</sub> of anti-human BCMA neutralizing antibody (Belantamab) is approximately 0.12 µg/mL.

# Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

## • *Related Products*

<u>Products</u>	<u>Cat.No.</u>
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 GLP-2R (Luc) HEK293 Reporter Cell	CHEK-ATF128
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 BCMA (Luc) Jurkat Reporter Cell Data Sheet

## • *Related Products*

<u>Products</u>	<u>Cat.No.</u>
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 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-ATP198
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
CHO/Human CD89 Stable Cell Line	SCCHO-ATP225
Raji/Human TL1A Stable Cell Line	CRAJ-STP232
Human IL-18 R1/IL-18 R beta (Luc) HEK293 Reporter Cell	CHEK-ATF233
Human IL-17 RA/IL-17 RB (Luc) HEK293 Reporter Cell	CHEK-ATF239
CHO/Human MAdCAM-1 Stable Cell Line	CCHO-ATP241
HEK293/Human Integrin alpha 4 beta 7 (ITGA4&ITGB7) Stable Cell Line	CHEK-ATP243

# Human BCMA (Luc) Jurkat Reporter Cell Data Sheet

## • *Related Products*

<u>Products</u>	<u>Cat.No.</u>
Human IL-1RL1 & IL-1 RAcP (IL-33 receptor) (Luc) HEK293 Reporter Cell	CHEK-ATF244
Jurkat/Human Transmembrane TNF-alpha (mTNF) Stable Cell Line	CJUR-STF248
CHO/Human CXCR3 Stable Cell Line	CCHO-ATP252
HEK293/Human CXCR3 Stable Cell Line	CHEK-ATP253
Human Glucocorticoid Receptor (Luc) HEK293 Reporter Cell	CHEK-ATF264
Human PD-1 & IL-2 R alpha & IL-2 R beta & IL-2 R gamma (Luc) HEK293 Reporter Cell	CHEK-ATF265
Human BCMA (Luc) HEK293 Reporter Cell	CHEK-ATF296