# Human BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet

## Human BTLA (Luc) Jurkat Reporter Cell

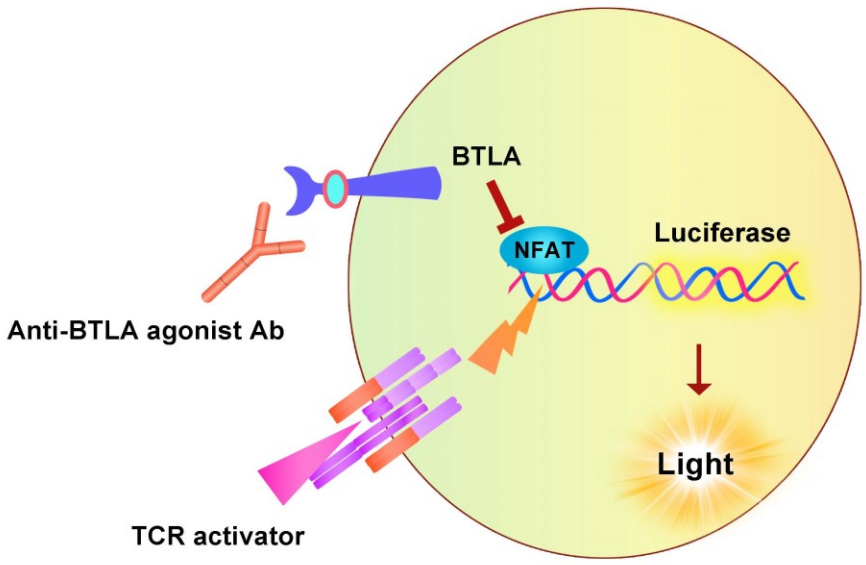
| Catalog No. | Size |
|---|---|
| SCJUR-STF106 | 2 × (1 vial contains ~5×10^6 cells) |

### • *Description*

The Human BTLA (Luc) Jurkat Reporter Cell was engineered to not only express the NFAT response element driving luciferase expressing systems, but also express the receptor full length human BTLA (Gene ID: 151888). When cocultured with anti-human BTLA agonist antibody, the interaction of agonist antibody and BTLA on the surface of Human BTLA (Luc) Jurkat Reporter Cell results in a decrease in TCR signaling and NFAT-mediated luminescence.

### • *Application*

- Screen for anti-human BTLA agonist antibody.
- Screen for antibody blocking the BTLA/HVEM binding.




Human BTLA (Luc) Jurkat Reporter Cell

# Human BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet

## • *Cell Line Profile*

| | |
|---|---|
| **Cell line** | Human BTLA (Luc) Jurkat Reporter Cell |
| **Host Cell** | Jurkat |
| **Property** | Suspension |
| **Complete Growth Medium** | RPMI-1640 + 10% FBS |
| **Selection Marker** | Puromycin (5 μg/mL) + Hygromycin (20 μg/mL) |
| **Incubation** | 37°C with 5% $CO_2$ |
| **Doubling Time** | 16-20 hours |
| **Transduction Technique** | Lentivirus |

# Human BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet

## • *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)
- Hygromycin B (Invitrogen, Cat.No.10687010)
- Complete Growth Medium: RPMI-1640 + 10% FBS
- Culture Medium: RPMI-1640 + 10% FBS, Puromycin (5 μg/mL), Hygromycin (20 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)

## • *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 5 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.
4. Count viable cells and spin 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 $1\times10^6$ viable cells/mL and transfer cells to an appropriate size vessel.
6. Incubate at 37℃ with 5% $CO_2$ incubator.

## • *Subculture*

Adjust the cell density at $2\times10^5$-$5\times10^5$ viable cells/mL by the addition of fresh culture medium or replacement of culture medium. Do not allow the cell density to exceed $3\times10^6$ cells/mL. T-75 flasks are recommended for subculturing.

- **Medium Renewal:** Add fresh culture medium every 3 to 4 days (depending on cell density)

## • *Cryopreservation*

1. Count viable cells and harvest the cell suspension.
2. Centrifuge at 1000 rpm for 5 min at RT and resuspend cells in freezing medium to a concentration of $5\times10^6$ to $1\times10^7$ cells/mL.
3. 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 BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet

- ***Receptor Assay***

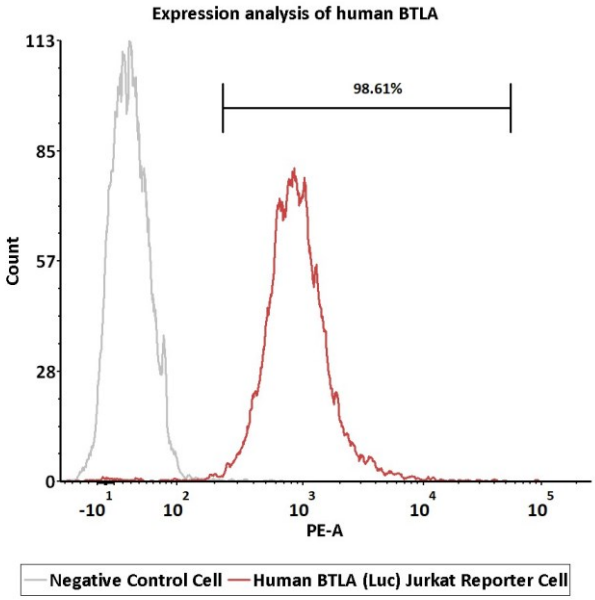



**Fig1. Expression analysis of human BTLA on Human BTLA (Luc) Jurkat Reporter Cell by FACS.** Human BTLA (Luc) Jurkat Reporter Cell or negative control cell were stained with PE-labeled anti-human BTLA antibody.

- ***Application***

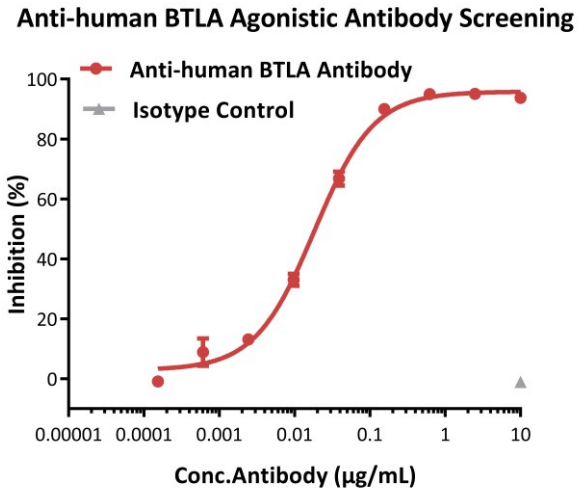
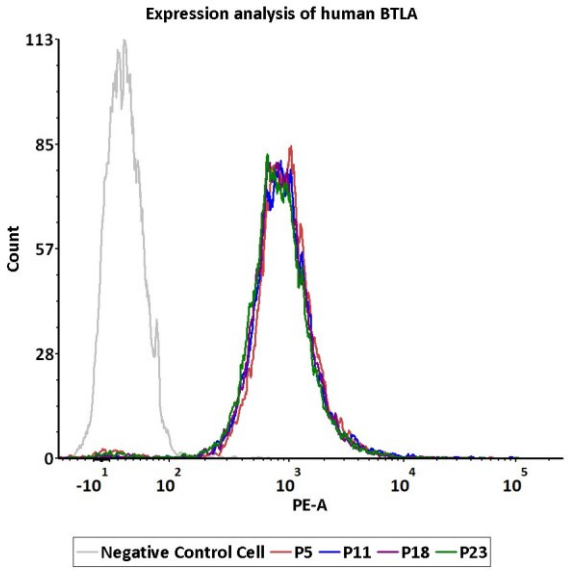



**Fig2. Inhibition of TCR activator-induced reporter activity by anti-human BTLA antibody.** This reporter cell was incubated with serial dilutions of antibodies stimulated by TCR activator. The EC50 of anti-human BTLA antibody is approximately 0.0037 μg/mL.

# Human BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet

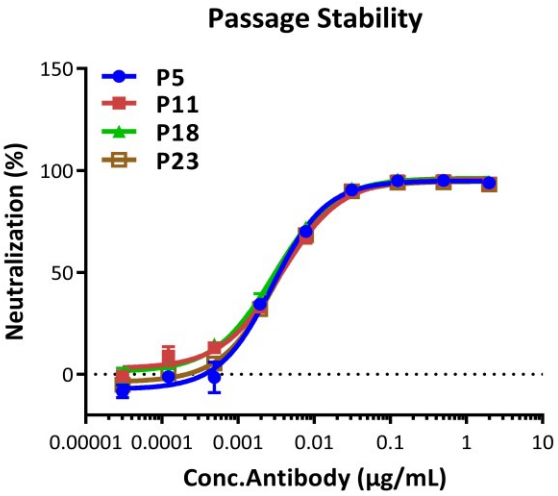
## • *Passage Stability*




| Passage | MFI for BTLA (PE) |
|---|---|
| P5 | 875.22 |
| P11 | 828.65 |
| P18 | 810.32 |
| P23 | 774.31 |

**Fig3. Passage stability analysis of receptor expression by FACS.** Flow cytometry surface staining of human BTLA on Human BTLA (Luc) Jurkat Reporter Cell demonstrates consistent mean fluorescent intensity across across passage 5-23.

# Human BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet




| | P5 | P11 | P18 | P23 |
|---|---|---|---|---|
| EC50 (μg/mL) | 0.0029 | 0.0037 | 0.0030 | 0.0032 |
| Max Neutralization (%) | 95.07 | 95.07 | 95.76 | 94.19 |

**Fig5. Passage stability analysis by anti-human BTLA antibody stimulation.** The continuously growing Human BTLA (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of antibodies. Anti-human BTLA antibody stimulated response demonstrates passage stabilization (EC50 and neutralization) across passage 5-23.

# Human BTLA (Luc) Jurkat Reporter Cell Development Service Data Sheet

## • *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.

## • *Related Products*

| **Products** | **Cat.No.** |
|---|---|
| CHO/Human BTLA Stable Cell Line Development Service | SCCHO-ATP110 |
| Human HVEM (Luc) HEK293 Reporter Cell | CHEK-ATF105 |