Human PD-1 (Luc) Jurkat Reporter Cell Development Service Data Sheet

Human PD-1 (Luc) Jurkat Reporter Cell

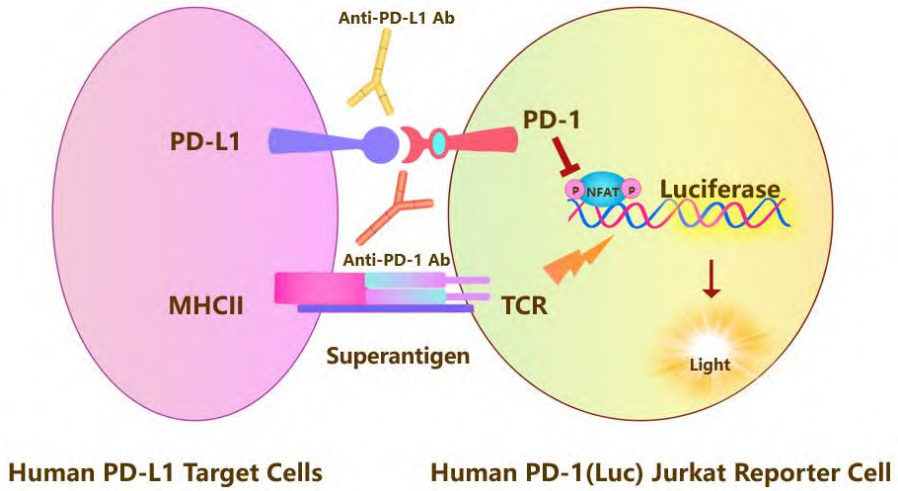
Catalog No.	Size
SCJUR-STF064	2 × (1 vial contains ~5×10^6 cells)

• *Description*

The Human PD-1 (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 PD-1 (Gene ID: 5133), which can use to evaluate the potency of PD-1 blockade. When cocultured with target cells expressing human PD-L1, the PD-1/PD-L1 interaction inhibits TCR signaling and NFAT-mediated luminescence. Blocking the PD-1/PD-L1 interaction by either anti-PD-1 or anti-PD-L1 antibodies releases the inhibitory signal and results in TCR activation and NFAT-mediated luminescence.

• *Application*

- Screen for anti-human PD-1 or anti-human PD-L1 antibody.



• *Cell Line Profile*

Cell line	Human PD-1 (Luc) Jurkat Reporter Cell
Host Cell	Jurkat
Property	Suspension
Complete Growth Medium	RPMI-1640 + 10% FBS
Selection Marker	Hygromycin (20 μg/mL) + Puromycin (5 μg/mL)
Incubation	37°C with 5% CO_2
Doubling Time	16-20 hours
Transduction Technique	Lentivirus

Human PD-1 (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, 1%P/S
- Culture Medium: RPMI-1640 + 10% FBS, Hygromycin (20 μg/mL), Puromycin (5 μg/mL), 1%P/S
- 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 1×10^6 viable cells/mL and transfer cells to an appropriate size vessel.
6. Incubate at 37°C with 5% CO_2 incubator

Human PD-1 (Luc) Jurkat Reporter Cell Development Service Data Sheet

• *Subculture*

Adjust the cell density at 2 x10^5-5 x10^5 viable cells/mL by the addition of fresh culture medium or replacement of culture medium. Do not allow the cell density to exceed 3 x10^6 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 5×10^6 to 1×10^7 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 PD-1 (Luc) Jurkat Reporter Cell Development Service Data Sheet

- ***Receptor Assay***

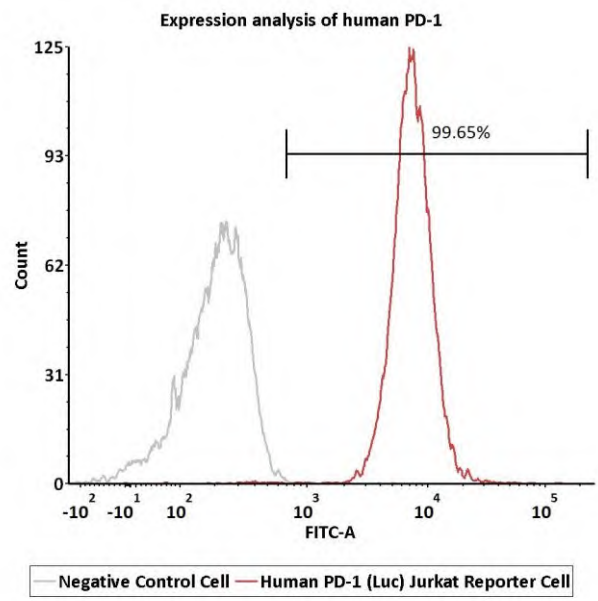


Fig1. Expression analysis of human PD-1 on Human PD-1 (Luc) Jurkat Reporter Cell by FACS. Cell surface staining was performed on Human PD-1 (Luc) Jurkat Reporter Cell or negative control cell using FITC-labeled anti-human PD-1 antibody.

- ***Application***

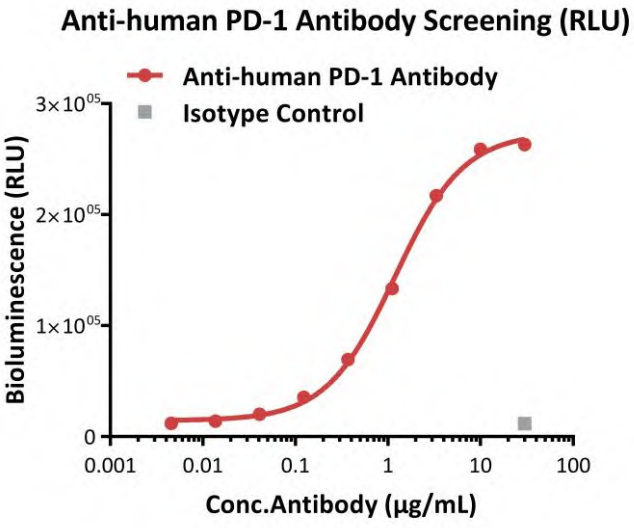


Fig2. Blocking activity of anti-human PD-1 antibody (RLU). This reporter cell was incubated with serial dilutions of Anti-human PD-1 Antibody in the presence of target cells expressing human PD-L1. The EC50was approximately 1.189 μg/mL.

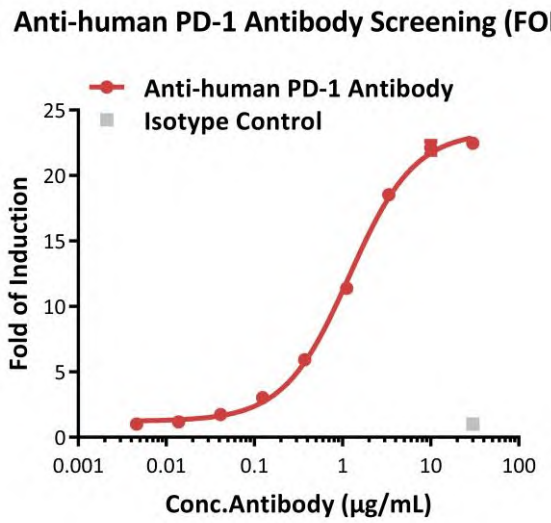
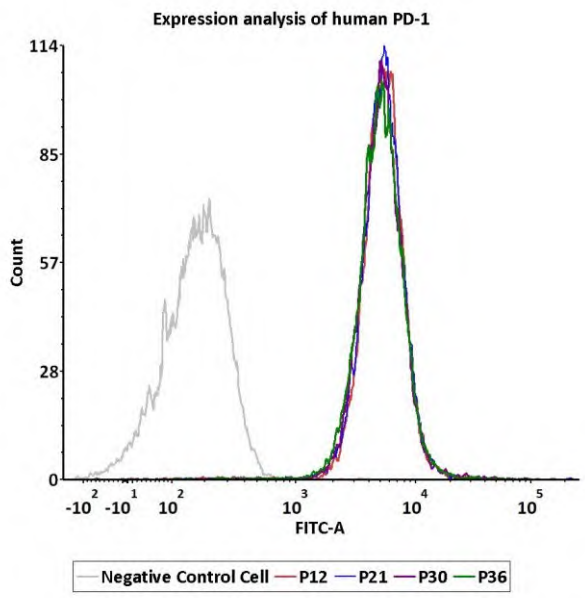


Fig3. Blocking activity of anti-human PD-1 antibody (FOLD). This reporter cell was incubated with serial dilutions of Anti-human PD-1 Antibody in the presence of target cells expressing human PD-L1. The max induction fold was approximately 22.47.

Human PD-1 (Luc) Jurkat Reporter Cell Development Service Data Sheet

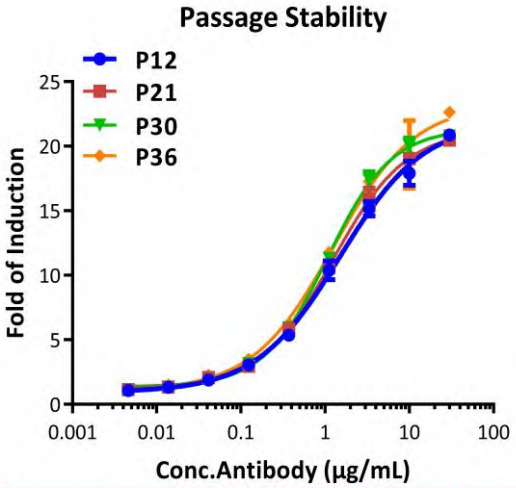
- ***Passage Stability***



Passage	MFI for PD-1 (FITC)
P12	5184
P21	5137
P30	4998
P36	4922

Fig4. Passage stability analysis of receptors expression by FACS. Flow cytometry surface staining of human PD-1 on Human PD-1 (Luc) Jurkat Reporter Cell demonstrates consistent mean fluorescent intensity across passage 12-36.

Human PD-1 (Luc) Jurkat Reporter Cell Development Service Data Sheet



	P12	P21	P30	P36
EC50 (μg/mL)	1.500	1.244	1.071	1.258
Max Fold	20.86	20.47	20.79	22.63

Fig5. Passage stability analysis by Signaling Bioassay. The continuously growing Human PD-1 (Luc) Jurkat Reporter Cell was stimulated with serial dilutions of Anti-human PD-1 antibody in the presence of target cells expressing human PD-L1. Anti-human PD-1 antibody stimulated response demonstrates passage stabilization (fold induction and EC50) across passage 12-36.

• *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.**
Human LAG-3 (Luc) Jurkat Reporter Cell	SCJUR-STF065
Human TIGIT (Luc) Jurkat Reporter Cell	SCJUR-STF066