Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

# Product Sheet

## H_PD1 SHP2 Reporter Jurkat Cell Line

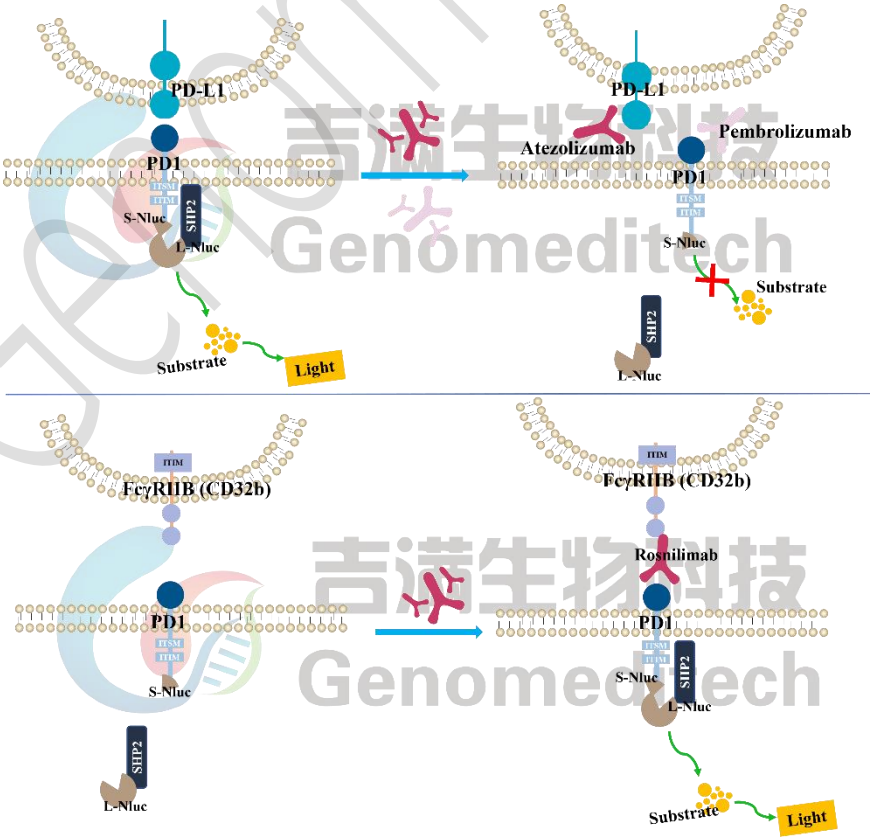
Catalog number: GM-C42136

Version 3.3.1.260407

Programmed cell death protein 1 (PD-1, CD279) is an immune checkpoint receptor on activated T cells, B cells, and some myeloid cells, in the immunoglobulin superfamily. Binding PD-L1 or PD-L2 phosphorylates tyrosine in ITIM/ITSM motifs, recruiting SH2-containing phosphatases, mainly SHP-2 (PTPN11) and sometimes SHP-1 (PTPN6).

SHP-2, highly expressed in hematopoietic cells, inhibits signaling by dephosphorylating TCR, BCR, and downstream molecules, blocking PI3K–AKT and RAS–MAPK pathways to reduce activation and effector function. In tumors and chronic infections, persistent PD-1 signaling recruits SHP-1/2, suppresses T-cell metabolism and cytotoxicity, induces exhaustion, and enables immune evasion via this axis.

H_PD1 SHP2 Reporter Jurkat Cell Line is a clonal stable Jurkat cell line constructed using lentiviral technology, constitutive expression of the PD1 receptor gene，and detected using enzyme fragment complementation (EFC) technology. Upon ligand binding or antibody-mediated crosslinking, receptor tyrosine residues are phosphorylated and specifically recruit Src homology region 2 domain–containing phosphatase-2 (SHP-2) fused with a downstream luciferase reporter gene. Upon addition of the luciferase substrate, the enzyme catalyzes the substrate reaction, producing a detectable luminescent signal. Therefore, this system can be used to evaluate the in vitro efficacy of related drugs.



Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

## Specifications

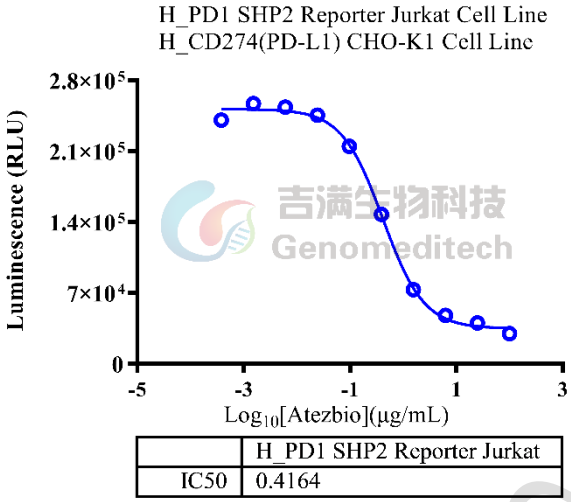
| | |
|---|---|
| **Quantity** | 5E6 Cells per vial,1 mL |
| **Product Format** | 1 vial of frozen cells |
| **Shipping** | Shipped on dry ice |
| **Storage Conditions** | Liquid nitrogen immediately upon receipt |
| **Recovery Medium** | RPMI 1640+10% FBS+1% P.S |
| **Growth medium** | RPMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin+0.75 μg/mL Puromycin |
| **Note** | None |
| **Freezing Medium** | 90% FBS+10% DMSO |
| **Growth properties** | Suspension |
| **Growth Conditions** | 37°C, 5% $CO_2$ |
| **Mycoplasma Testing** | The cell line has been screened to confirm the absence of Mycoplasma species. |
| **Safety considerations** | Biosafety Level 2 |
| **Note** | It is recommended to expand the cell culture and store a minimum of 10 vials at an early passage for potential future use. |

## Materials

| Reagent | Manufacturer/Catalogue No. |
|---|---|
| Anti-PD1 hIgG1 Reference Antibody(Rosnbio) | Genomeditech/GM-87930MAB |
| Anti-H_PDL1 hIgG1 Reference Antibody(Atezbio) | Genomeditech/GM-86854MAB |
| Anti-PD1 hIgG4 Reference Antibody (Pembio) | Genomeditech/GM-87802MAB |
| H_CD274(PD-L1) CHO-K1 Cell Line | Genomeditech/GM-C01115 |
| aAPC(OKT3) PDL1 CHO-K1 Cell Line | Genomeditech/GM-C05269 |
| Blasticidin | Genomeditech/GM-040404 |
| Puromycin | Genomeditech/GM-040401 |
| RPMI 1640 | gibco/C11875500BT |
| Fetal Bovine Serum | ExCell/FSP500 |
| Pen/Strep | Thermo/15140-122 |

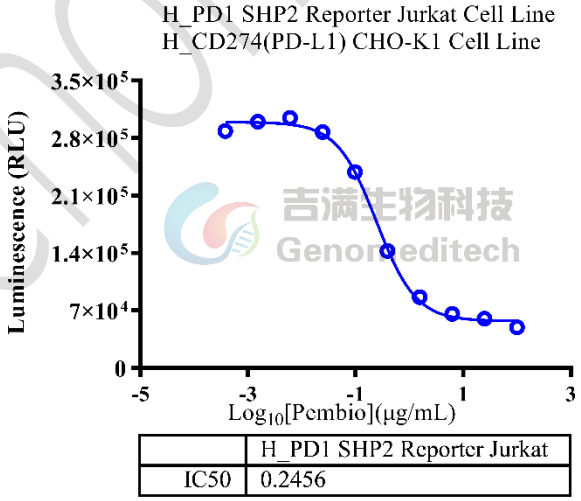
Genomeditech

## Figures




| | H_PD1 SHP2 Reporter Jurkat |
|---|---|
| IC50 | 0.4164 |

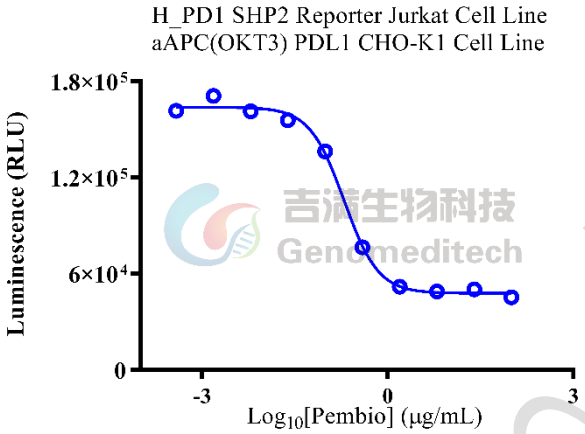
Figure 1 | Response to Anti-H_PDL1 hIgG1 Reference Antibody(Atezbio). Serial dilutions of the Anti-H_PDL1 hIgG1 Reference Antibody(Atezbio) (Cat. GM-86854MAB) was incubated with 1.5E4 cells/well of the H_CD274(PD-L1) CHO-K1 Cell Line (Cat. GM-C01115) in a 96-well plate for 1 hour. Subsequently, H_PD1 SHP2 Reporter Jurkat Cell Line (Cat. GM-C42136) with a concentration of 1E5 cells/well was added, and the co-culture proceeded for an additional 6 hours in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). Luciferase activity was measured using the Luciferase Assay System. The results indicated a maximum fold of approximately [7.8]. Data are shown by drug mass concentration.




| | H_PD1 SHP2 Reporter Jurkat |
|---|---|
| IC50 | 0.2456 |

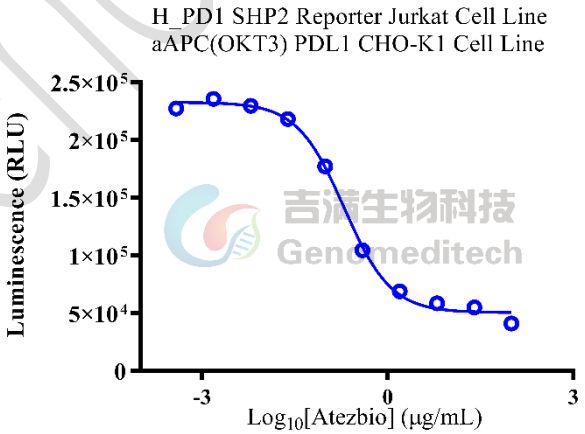
Figure 2 | Response to Anti-PD1 hIgG4 Reference Antibody (Pembio). H_CD274(PD-L1) CHO-K1 Cell Line (Cat. GM-C01115) was seeded at a density of 1.5E4 cells/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-PD1 hIgG4 Reference Antibody (Pembio) (Cat. GM-87802MAB were incubated with 1E5 cells/well of the H_PD1 SHP2 Reporter Jurkat Cell Line (Cat. GM-C42136) in a 96-well plate for 1 hour, and then added to the pre-seeded cells. The mixture was incubated for an additional 6 hours. Luciferase activity was

measured using the Luciferase Assay System. The results indicated a maximum fold of approximately [5.4]. Data are shown by drug mass concentration.




| | H_PD1 SHP2 Reporter Jurkat |
|---|---|
| IC50 | 0.1965 |

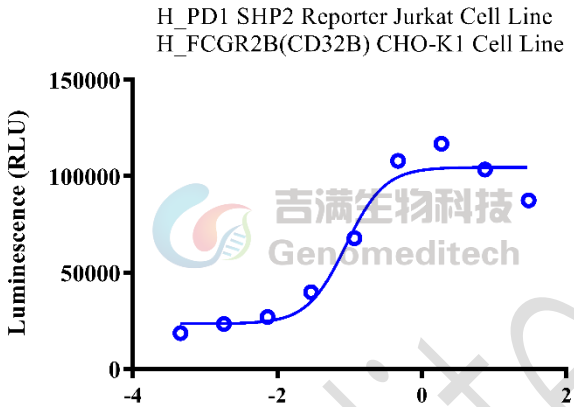
Figure 3 | Response to Anti-PD1 hIgG4 Reference Antibody (Pembio). aAPC(OKT3) PDL1 CHO-K1 Cell Line (Cat. GM-C05269) was seeded at a density of 1.5E4 cells/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-PD1 hIgG4 Reference Antibody (Pembio) (Cat. GM-87802MAB were incubated with 1E5 cells/well of the H_PD1 SHP2 Reporter Jurkat Cell Line (Cat. GM-C42136) in a 96-well plate for 1 hour, and then added to the pre-seeded cells. The mixture was incubated for an additional 6 hours. Luciferase activity was measured using the Luciferase Assay System. The results indicated a maximum fold of approximately [3.1]. Data are shown by drug mass concentration.




| | H_PD1 SHP2 Reporter Jurkat |
|---|---|
| IC50 | 0.1967 |

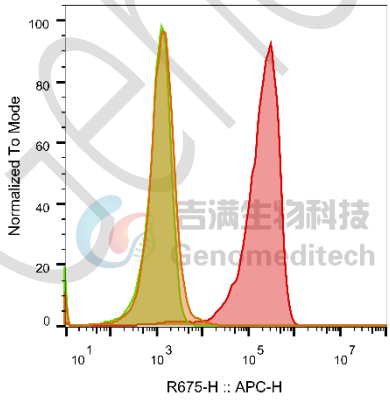
Figure 4 | Response to Anti-H_PDL1 hIgG1 Reference Antibody(Atezbio). Serial dilutions of the Anti-H_PDL1 hIgG1 Reference Antibody(Atezbio) (Cat. GM-86854MAB) was incubated with 1.5E4 cells/well of the aAPC(OKT3) PDL1 CHO-K1 Cell Line (Cat. GM-C05269) in a 96-well plate for 1 hour. Subsequently, H_PD1 SHP2 Reporter Jurkat Cell

Line (Cat. GM-C42136) with a concentration of 1E5 cells/well was added, and the co-culture proceeded for an additional 6 hours in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). Luciferase activity was measured using the Luciferase Assay System. The results indicated a maximum fold of approximately [4.6]. Data are shown by drug mass concentration.




| | H_PD1 SHP2 Reporter Jurkat |
|---|---|
| EC50 | 0.08906 |

Figure 5 | Response to Anti-PD1 hIgG1 Reference Antibody(Rosnbio). Serial dilutions of the Anti-PD1 hIgG1 Reference Antibody(Rosnbio) (Cat. GM-87930MAB)and 1E5 cells/well of the H_PD1 SHP2 Reporter Jurkat Cell Line (Cat. GM-C42136) were added to 1.5E4 cells/well of H_FCGR2B(CD32B) CHO-K1 Cell Line (Cat. GM-C16925) for 6 hours. Luciferase activity was measured using the Luciferase Assay System. The maximum induction fold was approximately [8.4]. Data are shown by drug mass concentration.




| SampleID | Geometric Mean : R675-H |
|---|---|
| Jurkat Anti-PD1+APC 2nd Ab | 1202 |
| H_PD1 SHP2 Jurkat Anti-H_IgG+APC 2nd Ab | 986 |
| H_PD1 SHP2 Jurkat Anti-PD1+APC 2nd Ab | 172885 |

Figure 6 | H_PD1 SHP2 Reporter Jurkat Cell Line Cell Line (Cat. GM-C42136) was determined by flow cytometry using Anti-PD1 hIgG1 Reference Antibody(Rosnbio) (Cat. GM-87930MAB).

Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

## Cell Recovery

Recovery Medium: RPMI 1640+10% FBS+1% P.S

To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

a) Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 - 3 minutes).
b) Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
c) Transfer the vial contents to a centrifuge tube containing 5.0 mL complete culture medium. And spin at approximately 176 x g for 5 minutes. Discard supernatant.
d) Resuspend cell pellet with the recommended complete medium. And dispense the suspension into 1 - 2 T-25 culture flasks.
e) Incubate the culture at 37°C in a suitable incubator. A 5% $CO_2$ in air atmosphere is recommended if using the medium described on this product sheet.

## Cell Freezing

Freezing Medium: 90% FBS+10% DMSO

a) Centrifuge at 176 x g for 3 minutes to collect cells.
b) Resuspend the cells in pre-cooled freezing medium and adjust the cell density to 5E6 cells/mL.
c) Aliquot 1 mL into each vial.
d) Place the vial in a controlled-rate freezing container and store at -80°C for at least 1 day, then transfer to liquid nitrogen as soon as possible.

## Cell passage

Growth medium: RPMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin+0.75 μg/mL Puromycin

Approximately 48-72 hours after the initial thawing, the cells can be passaged for the first time. After this initial passage, the culture medium can be adjusted to growth medium supplemented with antibiotics. If cells are not passaged within 48 hours, it is recommended to add some fresh recovery medium and place the flask horizontally.

a) When the cell density reaches 1.5 - 2E6 cells/mL, subculture the cells. Do not allow the cell density to exceed 2E6 cells/mL.
b) It is recommended to use T-25 flasks for subculturing.
c) These cells are suspension cells, and it is recommended to use the "half-medium change" method to maintain optimal cell conditions during passaging.
d) During passaging, you can directly add fresh growth medium to the culture flask, gently pipette to resuspend the cells, and then transfer the cell suspension to a new T-25 flask for continued culture.

**Subcultivation Ratio: Maintain cultures at a cell concentraion between 3E5 and 1E6 viable cells/mL.**

Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

**Medium Renewal: Every 2 to 3 days**

## Notes

a) These cells are sensitive to density, so please ensure that the cell density is maintained within an appropriate range during culture and subculturing.

b) During the first passage, pay attention to the nutrient supply; if not subculturing, make sure to add fresh recovery medium every other day as needed.

## Related Products

| PD-1:PD-L1(B7-H1):PDL2 | |
|---|---|
| Mouse_PDL1 KO CT26 Cell Line | Mouse_PDL1 KO LLC1 Cell Line |
| Mouse_PDL1 KO MC38 Cell Line | aAPC(OKT3) PDL1 CHO-K1 Cell Line |
| H_PD-1 Reporter Jurkat Cell Line | H_PD1 SHP1 Reporter Jurkat Cell line |
| H_PDCD1LG2(PDL2) aAPC CHO-K1 Cell Line | Mouse PDL1 aAPC CHO-K1 Cell Line |
| Mouse_PD-1 Reporter Jurkat Cell Line | Canine_PD-1 CHO-K1 Cell Line |
| Canine_PD-1 HEK-293 Cell Line | Cynomolgus_PD1 CHO-K1 Cell Line |
| Cynomolgus_PD-L1 HEK-293 Cell Line | H_CD274(PD-L1) CHO-K1 Cell Line |
| H_CD274(PD-L1) MC38 Cell Line | H_PDCD1(PD-1) CHO-K1 Cell Line |
| H_PDCD1(PD-1) CHO-K1 Cell Line (Low Expression) | H_PDCD1(PD-1) HEK-293 Cell Line |
| H_PDCD1LG2(PDL2) CHO-K1 Cell Line | H_PDL1 CT26(mouse PDL1 KO) Cell Line |
| H_PD-L1 HEK-293 Cell Line | H_PDL1 LLC1(mouse_PDL1 KO) Cell Line |
| H_PDL1 LLC1(mouse_PDL1 KO) Cell Line | H_PDL1 MC38(mouse PDL1 KO) Cell Line |
| H_PD-L1 Raji Cell Line | M_PDCD1(PD-1) CHO-K1 Cell Line |
| Anti-Canine_PD1 mIgG2a Antibody(4F12-E6) | Anti-CTLA-4/PD-1 hIgG1 Bispecific Antibody(Cadonilimab) |
| Anti-CTLA4×PD-1 hIgG1 Reference Antibody (Cadbio) | Anti-H_CD274(PDL1) hIgG1 Antibody(Atezolizumab) |
| Anti-H_PDCD1(PD1) hIgG1 Antibody(Budigalimab) | Anti-H_PDCD1LG2 mIgG1 Antibody(3G2) |
| Anti-H_PDL1 hIgG1 Reference Antibody(Atezbio) | Anti-mouse PD1 RIgG2a Antibody(RMP1-14) |
| Anti-mouse PD-L1 mIgG1 Antibody(10F.9G2) | Anti-Mouse_PD1 mIgG1 Antibody(29F.1A12) |
| Anti-mouse_PD1 mIgG1 Antibody(RMP1-14) | Anti-Mouse_PD1×VEGF hIgG1 Bispecific Antibody |
| Anti-PD1 hIgG1 Antibody(Peresolimab) | Anti-PD1 hIgG1 Reference Antibody (Perbio) |
| Anti-PD1 hIgG1 Reference Antibody(Rosnbio) | Anti-PD1 hIgG4 Antibody(Pembrolizumab) |
| Anti-PD1 hIgG4 Reference Antibody (Nivbio) | Anti-PD1 hIgG4 Reference Antibody (Pembio) |
| Anti-PD1 hIgG4 Reference Antibody (Sintbio) | Anti-PD-1 hIgG4 Reference Antibody (Torbio) |
| Anti-PD1 hIgG4 Reference Antibody(Cambio) | Anti-PD-1 hIgG4 Reference Antibody(Tislbio) |
| Anti-PD1-IL2v Fusion hIgG1 Antibody(2149) | Anti-PD1-IL2v Fusion hIgG1 Antibody(KY-0118) |
| Anti-PD-L1 hIgG1 Reference Antibody(Avebio) | Anti-PDL1 hIgG4 Reference Antibody(Adebio) |
| Anti-PD-L2 hIgG1 Antibody(Hz25G4-1.1) | Anti-VEGF×PD1 hIgG1 Reference Antibody (Ivobio) |
| Anti-VEGF×PD-L1 hIgG1 Bispecific Antibody (Pumibio) | Anti-VEGF×PD-L1 hIgG1 Bispecific Antibody (pumitamig) |
| Biotinylated Human PD1 Protein; His-Avi Tag | Biotinylated Human PDL1 Protein; His-Avi Tag |

Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

| | |
|---|---|
| Canine PD1 Protein; hFc Tag | Cynomolgus PDL1 Protein; His Tag |
| Human PD1 Protein; hFc Tag | Human PD1 Protein; His Tag |
| Human PDL1 Protein; His Tag | Human PDL1 Protein; mFc Tag |
| Human PDL2 Protein; mFc Tag | Mouse PDL1 Protein; His Tag |

## License Agreement:

**By purchasing and using this cell line product, the user voluntarily agrees to accept and abide by the following policies:**

- This cell line product is restricted to research use only and shall not be used for any commercial purposes.
- This product is strictly prohibited from being used in the diagnosis or treatment of human or animal diseases, and shall not be directly used in experiments involving humans.
- Users and their contractors engaged for their benefit may use this material and its derivatives only within the agreed research scope; modification of the material is not permitted, nor may it be distributed, sold, transferred, or otherwise provided to any other entity (including affiliates).
- If use beyond the above scope is required, prior written permission from Genomeditech (Shanghai) Co.,Ltd. must be obtained. For details, please contact Genomeditech (Shanghai) Co.,Ltd.

Genomeditech