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

Product Sheet

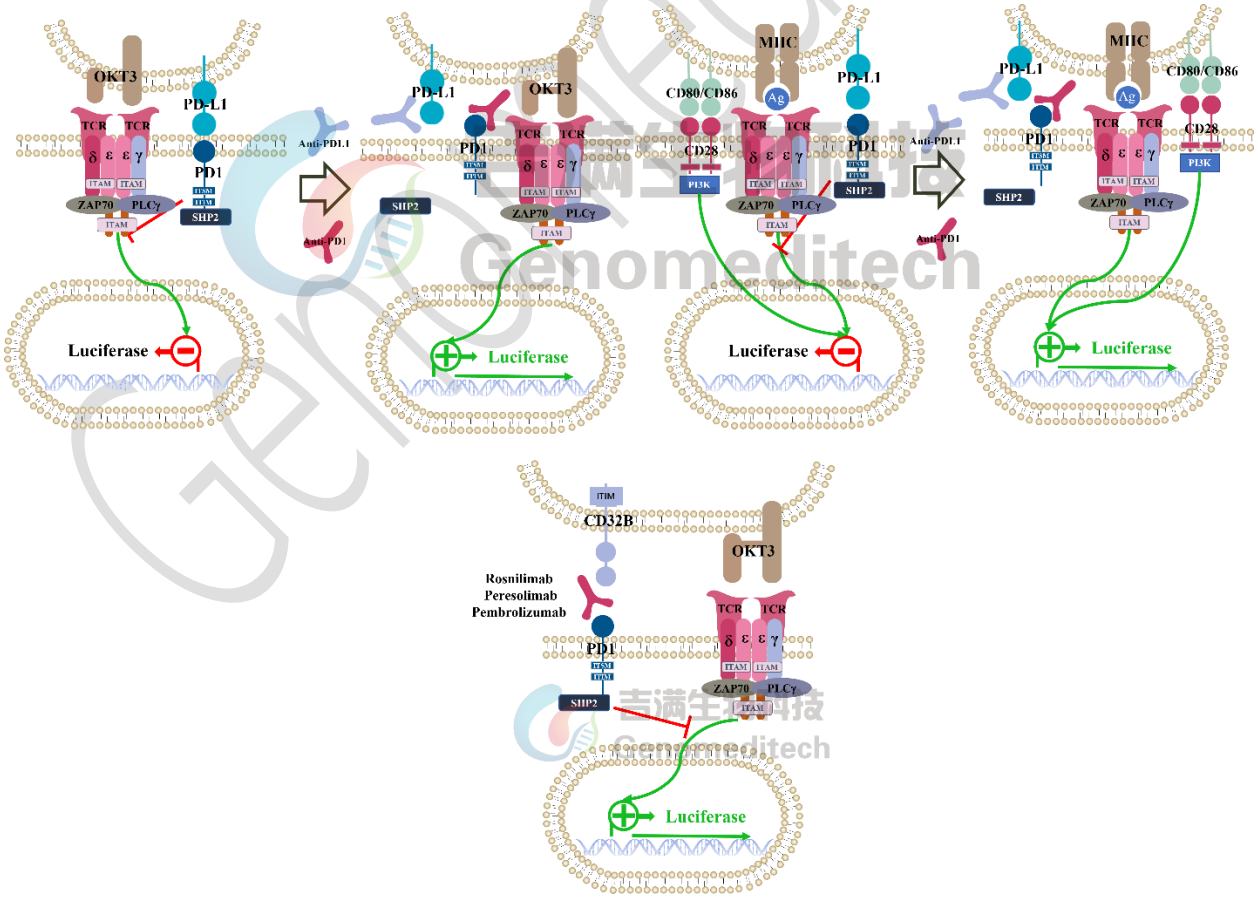
H_PD-1 Reporter Jurkat Cell Line

Catalog number: GM-C07928

Version 3.3.1.250411

PD-1 is an immunosuppressive receptor on activated T and B cells, essential for regulating immune responses to tumor antibodies and self-antigens. Its interaction with ligands PD-L1 or PD-L2 inhibits TCR signaling, affecting cell proliferation, transcriptional activation, and cytokine production. Therapeutic antibodies and Fc fusion proteins blocking this interaction have shown promise in cancer clinical trials.

H_PD-1 Reporter Jurkat Cell Line is a stable clonal Jurkat cell line constructed using lentiviral technology, constitutive expression of the PD-1 gene, along with signal-dependent expression of a luciferase reporter gene. It has three applicable cells: when co-cultured with the aAPC(OKT3) PDL1 CHO-K1 cell line or the H_PD-L1 Raji cell line, the PD-1/PD-L1 interaction inhibits TCR signaling and luciferase expression. Adding antibodies that block this interaction can relieve the inhibition, restoring TCR signaling and luciferase expression. When co-cultured with the H_CD32B aAPC CHO-K1 cell line, the addition of PD-1 agonist antibodies allows the antibodies to crosslink with the FcγRIIb receptor, activating PD-1 downstream SHP2-mediated inhibitory signaling, thereby suppressing downstream TCR activation signals.



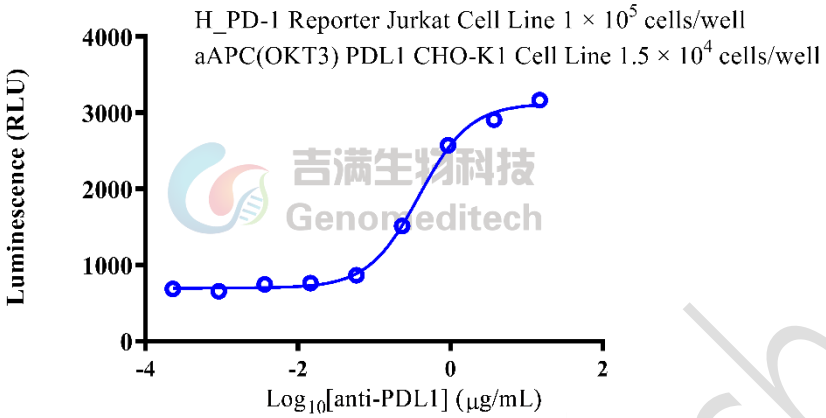
Specifications

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

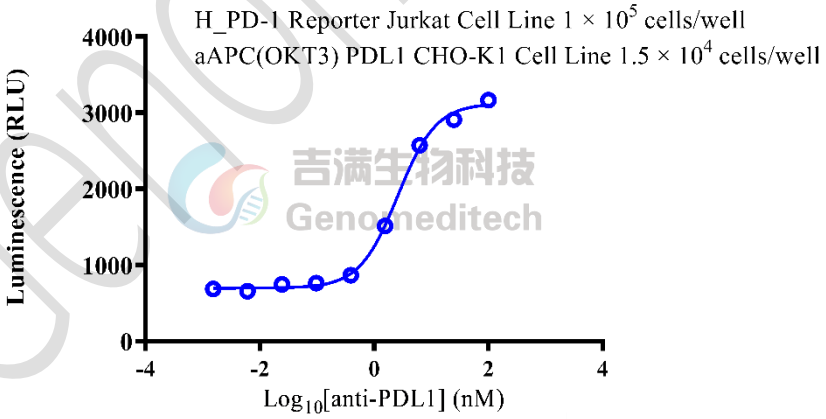
Reagent	Manufacturer/Catalogue No.
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Puromycin	Genomeditech/GM-040401
aAPC(OKT3) PDL1 CHO-K1 Cell Line	Genomeditech/GM-C05269
H_PD-L1 Raji Cell Line	Genomeditech/GM-C03541
H_CD32B aAPC CHO-K1 Cell Line	Genomeditech/GM-C25754
Staphylococcal Enterotoxin E (SEE)	Genomeditech/GM-H23036
Anti-H_CD274(PDL1) hIgG1 Antibody(Atezolizumab)	Genomeditech/GM-31740AB
Anti-PD1 hIgG4 Antibody(Pembrolizumab)	Genomeditech/GM-52674AB
Anti-PD1 hlgG1 Antibody(Rosnilimab)	Genomeditech/GM-87952AB
Anti-PD1 hlgG1 Antibody(Peresolimab)	Genomeditech/GM-87951AB
Anti-PD1 hIgG4 Reference Antibody (Pembio)	Genomeditech/GM-87802MAB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

Figures



	H_PD-1 PDL1 Reporter Blockade Assay
EC50	0.3911

Figure 1 | Response to Anti-H_CD274(PDL1) hIgG1 Antibody(Atezolizumab). Serial dilutions of the Anti-H_CD274(PDL1) hIgG1 Antibody (Atezolizumab) (Cat. GM-31740AB) was incubated with 1E4 cells/well of the aAPC(OKT3) PDL1 CHO-K1 Cell Line (Cat. GM-C05269) in a 96-well plate for 1 hour. Subsequently, H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) with a concentration of 1E5 cells/well was added, and the co-culture proceeded for an additional 16 hours in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [5.1]. Data are shown by drug mass concentration.



	H_PD-1 PDL1 Reporter Blockade Assay
EC50	2.607

Figure 2 | Response to Anti-H_CD274(PDL1) hIgG1 Antibody(Atezolizumab). Serial dilutions of the Anti-H_CD274(PDL1) hIgG1 Antibody (Atezolizumab) (Cat. GM-31740AB) 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_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) with a concentration of 1E5 cells/well was added, and the co-culture proceeded for an additional 16 hours in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). Firefly luciferase activity is then

measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [5.1]. Data are shown by drug molar concentration.

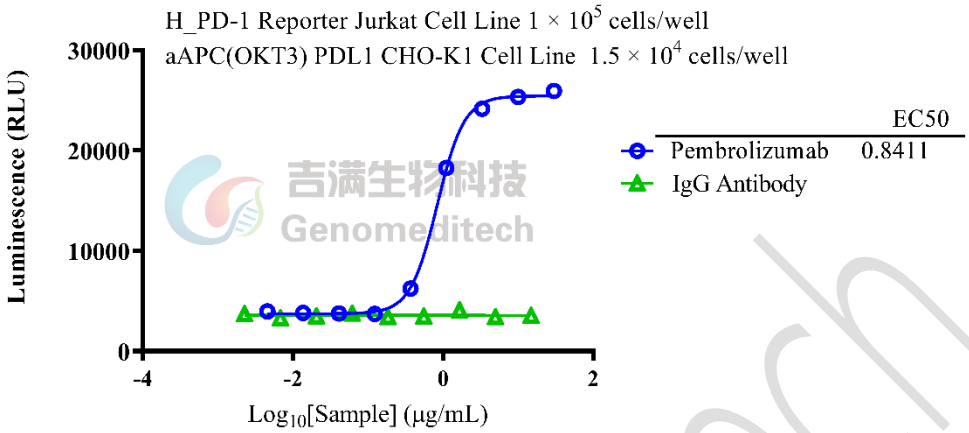


Figure 3 | Response to Anti-PD1 hIgG4 Antibody(Pembrolizumab). aAPC(OKT3) PDL1 CHO-K1 Cell Line (Cat. GM-C05269) was seeded at a density of 1E4 cells/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-PD1 hIgG4 Antibody(Pembrolizumab) (Cat. GM-52674AB) ,and Human IgG1 Isotype Control were incubated with 1E5 cells/well of the H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) 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. Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [7.3]. Data are shown by drug mass concentration.

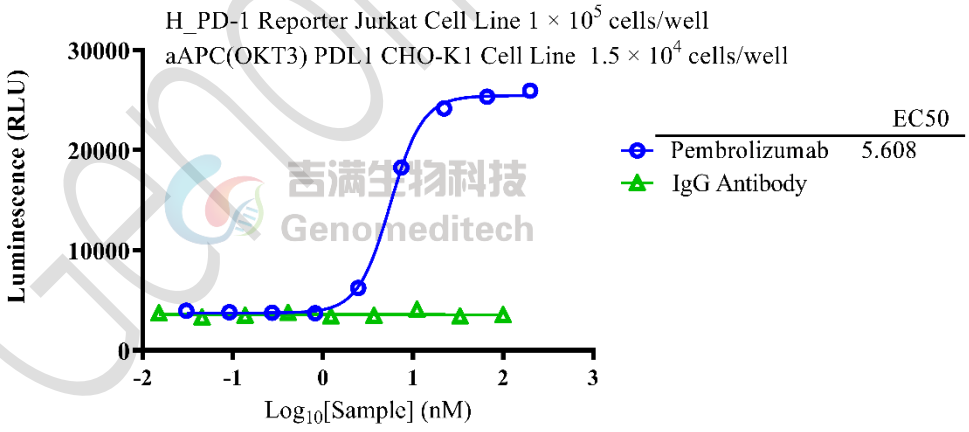
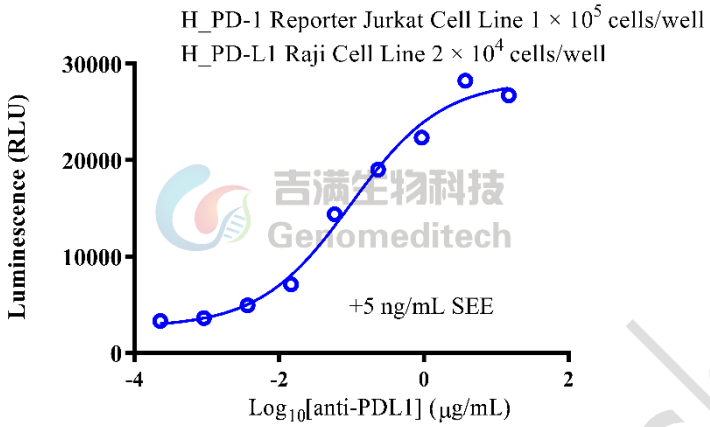
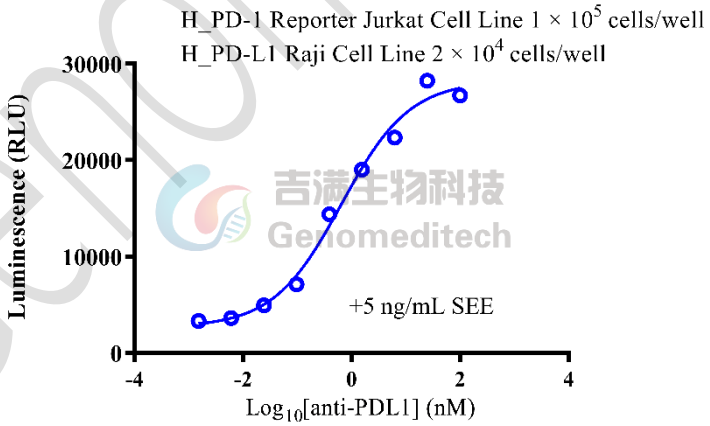


Figure 4 | Response to Anti-PD1 hIgG4 Antibody(Pembrolizumab). aAPC(OKT3) PDL1 CHO-K1 Cell Line (Cat. GM-C05269) was seeded at a density of 1.5E4 cells/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-PD1 hIgG4 Antibody(Pembrolizumab) (Cat. GM-52674AB) ,and Human IgG1 Isotype Control were incubated with 1E5 cells/well of the H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) 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. Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [7.3]. Data are shown by drug molar concentration.



	H_PD-1 PDL1 Assay
EC50	0.09857

Figure 5 | Response to Anti-H_CD274(PDL1) hIgG1 Antibody (Atezolizumab). The Atezolizumab (Cat. GM-31740AB) was serially diluted and incubated with 2E4 cells/well of the H_PD-L1 Raji Cell Line in a 96-well plate for 30 minutes. Meanwhile, 1E5 cells/well of the H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) was pre-incubated with 0.5 ng/well of SEE in a 96-well plate for 30 minutes. Afterward, the two treated cell mixtures were combined in equal volumes and co-incubated in assay buffer (RPMI 1640 + 1% FBS + 1% P.S.) for 16 hours. Firefly luciferase activity was then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [8.3]. Data are presented based on drug mass concentration.



	H_PD-1 PDL1 Assay
EC50	0.6571

Figure 6 | Response to Anti-H_CD274(PDL1) hIgG1 Antibody (Atezolizumab). The Atezolizumab (Cat. GM-31740AB) was serially diluted and incubated with 2E4 cells/well of the H_PD-L1 Raji Cell Line in a 96-well plate for 30 minutes. Meanwhile, 1E5 cells/well of the H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) was pre-incubated with 0.5 ng/well of SEE in a 96-well plate for 30 minutes. Afterward, the two treated cell mixtures were combined in equal volumes and co-incubated in assay buffer (RPMI 1640 + 1% FBS + 1% P.S.) for 16 hours. Firefly luciferase activity

was then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [8.3]. Data are presented based on drug molar concentration.

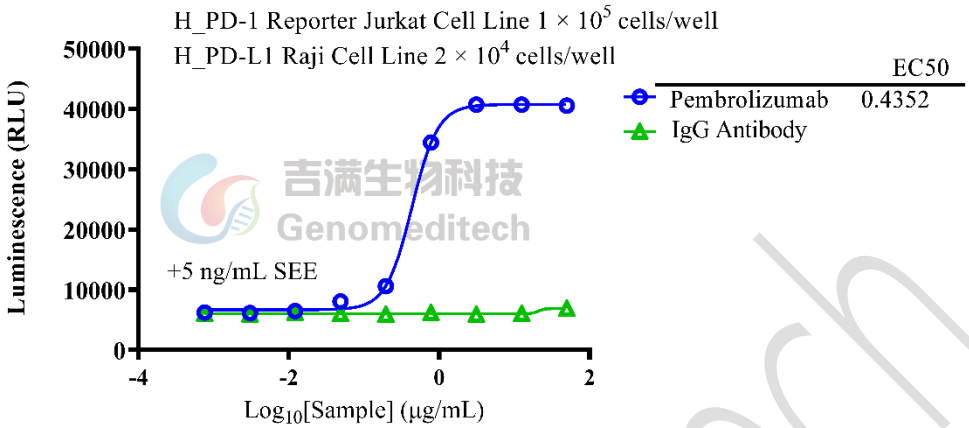


Figure 7 | Response to Anti-PD1 hIgG4 Antibody(Pembrolizumab). The Pembrolizumab (Cat. GM-52674AB) was serially diluted and incubated with 1E5 cells/well of the H_PD-1 Reporter Jurkat Cell Line(Cat. GM-C07928) in a 96-well plate for 30 minutes. Meanwhile, 2E4 cells/well of the H_PD-L1 Raji Cell Line (Cat. GM-C03541) was pre-incubated with 0.5 ng/well of SEE in a 96-well plate for 30 minutes. Afterward, the two treated cell mixtures were combined in equal volumes and co-incubated in assay buffer for 16 hours. IgG Isotype is the control. Firefly luciferase activity was then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [6.6]. Data are presented based on drug mass concentration.

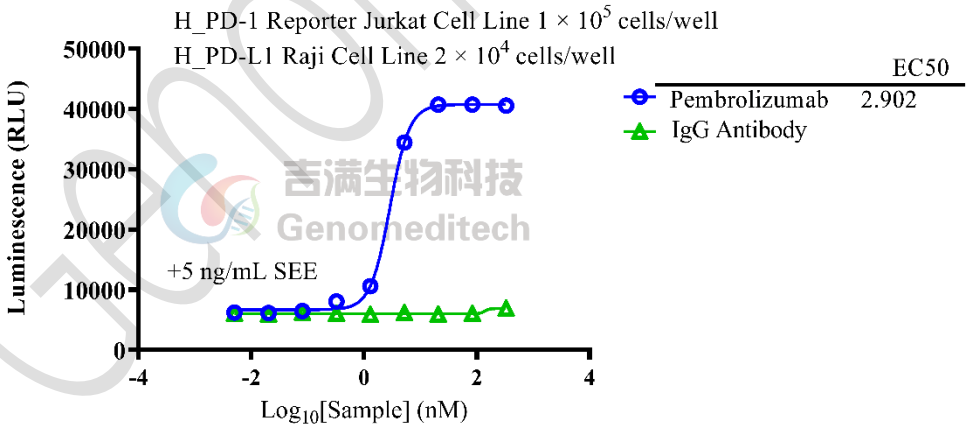


Figure 8 | Response to Anti-PD1 hIgG4 Antibody(Pembrolizumab). The Pembrolizumab (Cat. GM-52674AB) was serially diluted and incubated with 1E5 cells/well of the H_PD-1 Reporter Jurkat Cell Line(Cat. GM-C07928) in a 96-well plate for 30 minutes. Meanwhile, 2E4 cells/well of the H_PD-L1 Raji Cell Line (Cat. GM-C03541) was pre-incubated with 0.5 ng/well of SEE in a 96-well plate for 30 minutes. Afterward, the two treated cell mixtures were combined in equal volumes and co-incubated in assay buffer for 16 hours. IgG Isotype is the control. Firefly luciferase activity was then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated a maximum fold of approximately [6.6]. Data are presented based on drug molar concentration.

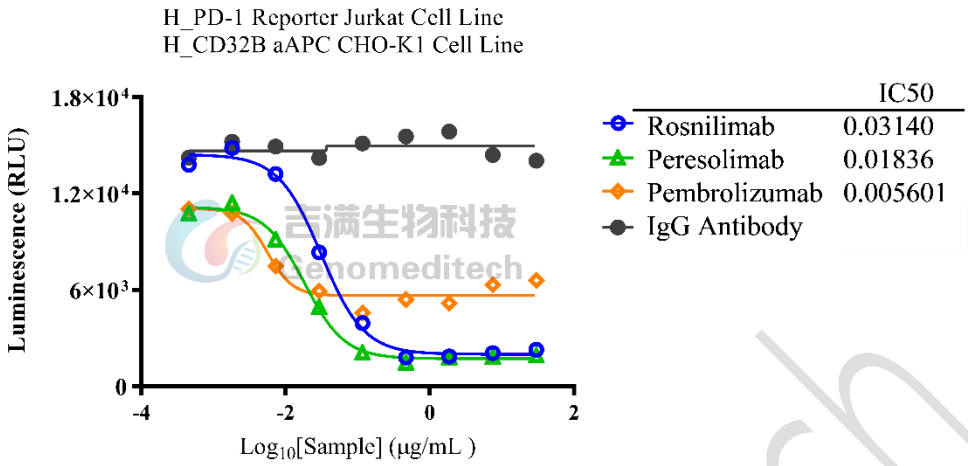


Figure 9 | Response to Rosnilimab, Peresolimab and Pembrolizumab. Serial dilutions of the Rosnilimab, Peresolimab and Pembrolizumab was incubated with 1E4 cells/well of the H_CD32B aAPC CHO-K1 Cell Line (Cat. GM-C25754) in a 96-well plate for 1 hour. Subsequently, H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) 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). Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated maximum blocking folds of approximately [5.8],[5.7]and [2.1], respectively. Data are shown by drug mass concentration.

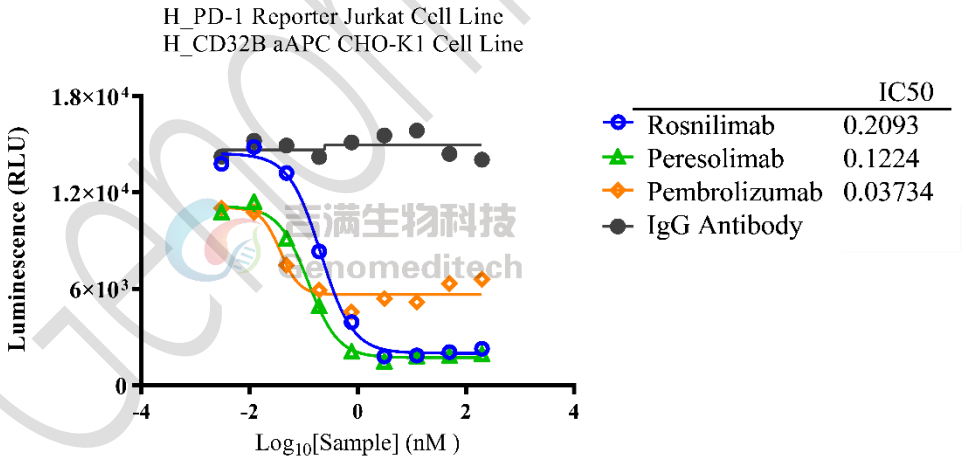


Figure 10 | Response to Rosnilimab, Peresolimab and Pembrolizumab. Serial dilutions of the Rosnilimab, Peresolimab and Pembrolizumab was incubated with 1E4 cells/well of the H_CD32B aAPC CHO-K1 Cell Line (Cat. GM-C25754) in a 96-well plate for 1 hour. Subsequently, H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) 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). Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated maximum blocking folds of approximately [5.8],[5.7]and [2.1], respectively. Data are shown by drug molar concentration.

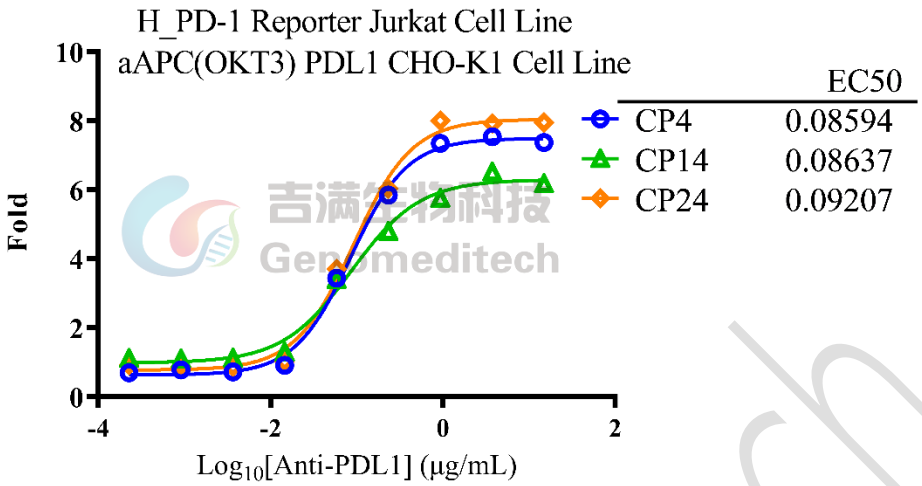


Figure 11 | The passage stability of response to Anti-H_CD274(PDL1) hIgG1 Antibody(Atezolizumab). Serial dilutions of the Atezolizumab(Cat. GM-31740AB) were incubated with 1.5E4 cells/well of the aAPC(OKT3) PDL1 CHO-K1 Cell Line (Cat. GM-C05269) in a 96-well plate for 1 hour in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). Subsequently, the passage 4, 14, and 24 of H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) at a concentration of 1E5 cells/well was added, and the coculture proceeded for an additional 16 hours. Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat.GM-040503). Data are shown by drug mass concentration.

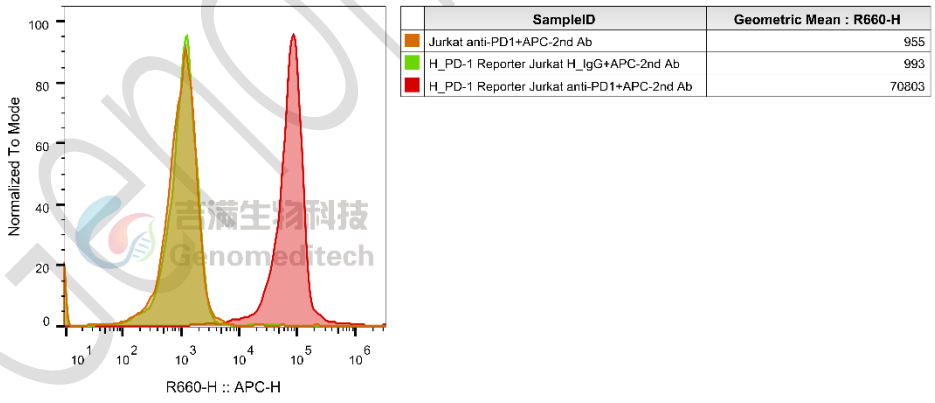


Figure 12 | H_PD-1 Reporter Jurkat Cell Line (Cat. GM-C07928) was determined by flow cytometry using Anti-PD1 hIgG1 Antibody (In house).

Cell Recovery

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

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

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.

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 LLC1 Cell Line	Mouse_PDL1 KO MC38 Cell Line
aAPC(OKT3) PDL1 CHO-K1 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	H_CD274(PD-L1) CHO-K1 Cell Line
H_CD274(PD-L1) MC38 Cell Line	H_PDCD1(PD-1) CHO-K1 Cell Line
	H_PDCD1LG2(PDL2) CHO-K1 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-H_CD274(PDL1) hIgG1 Antibody(Atezolizumab)
Anti-H_PDCD1(PD1) hIgG1 Antibody(Budigalimab)	Anti-H_PDCD1LG2 mIgG1 Antibody(3G2)
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-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-PD-L1 hIgG1 Reference Antibody(Avebio)
Anti-PDL1 hIgG4 Reference Antibody(Adebio)	Anti-PD-L2 hIgG1 Antibody(Hz25G4-1.1)
Biotinylated Human PD1 Protein; His-Avi Tag	Biotinylated Human PDL1 Protein; His-Avi Tag
Canine PD1 Protein; hFc Tag	Cynomolgus PDL1 Protein; His Tag
Human PD1 Protein; His Tag	Human PDL1 Protein; His Tag
Mouse PDL1 Protein; His Tag	

Limited Use License Agreement

Genomeditech (Shanghai) Co., Ltd grants to the Licensee all intellectual property rights, exclusive, non-transferable, and non-sublicensable rights of the Licensed Materials; Genomeditech (Shanghai) Co., Ltd will retain ownership of the Licensed Materials, cell line history packages, progeny, and the Licensed Materials including modified materials.

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

Between Genomeditech (Shanghai) Co., Ltd, and Licensee, Licensee is not permitted to modify cell lines in any way. The Licensee shall not share, distribute, sell, sublicense, or otherwise provide the Licensed Materials, or progenitors to third parties such as laboratories, departments, research institutions, hospitals, universities, or biotechnology companies for use other than for the purpose of outsourcing the Licensee's research.

Please refer to the Genomeditech Cell Line License Agreement for details.