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

Product Sheet

H_TIGIT CD226 Reporter Jurkat Cell Line

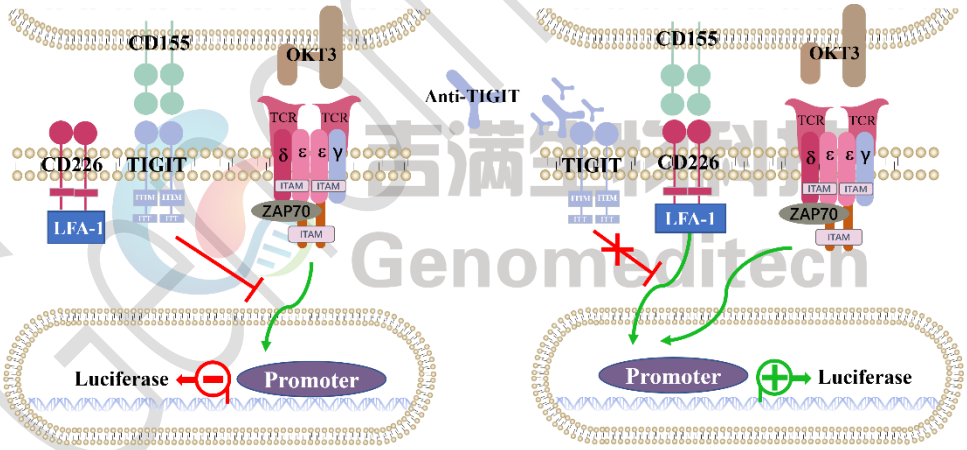
Catalog number: GM-C20072

Version 3.3.1.260511

TIGIT is an immune checkpoint receptor expressed on T cells and NK cells, involved in regulating immune responses. Its ligands, CD155 and CD112, are found on dendritic cells, macrophages, and tumor cells. TIGIT binding suppresses T cell proliferation and cytokine release, maintaining immune tolerance, though tumor cells may exploit it to evade immunity.

TIGIT binds ligands like CD155, activating its ITIM domain to recruit inhibitory molecules (e.g., SHP2), which suppress T and NK cell activity by blocking PI3K/AKT and NF-κB pathways. It also competes with CD226 for ligand binding, enhancing immune suppression.

H_TIGIT CD226 Reporter Jurkat Cell Line is a clonal, stable Jurkat cell line constructed using lentiviral technology. It exhibits constitutive expression of the TIGIT and CD226 genes, endogenous expression of the TCR-CD3 complex, and signal-dependent expression of a luciferase reporter gene. When T cells are stimulated by TCR (T-cell receptor) and CD155 binds to CD226, leading to the expression of luciferase. The TIGIT competes with CD226 for CD155, it activates downstream signaling pathways, inhibits the expression of luciferase. Blockade antibodies can block this inhibitory signal transmission, restore the activation of T cells. The luciferase activity measurement indicates the activation level of the signaling pathway and can thus be used to evaluate the in vitro effects of drugs related to TIGIT.



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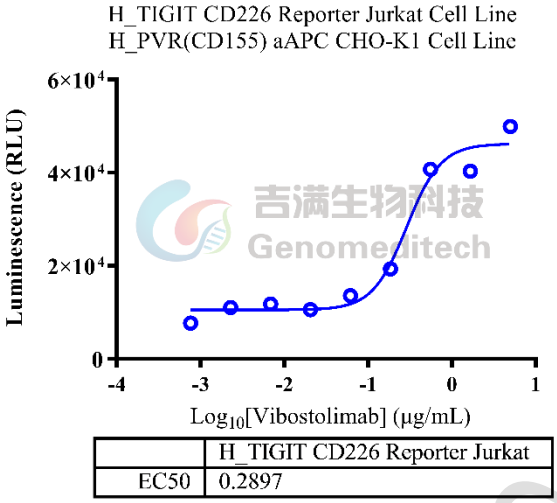
Specifications

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+200 μg/mL Hygromycin+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

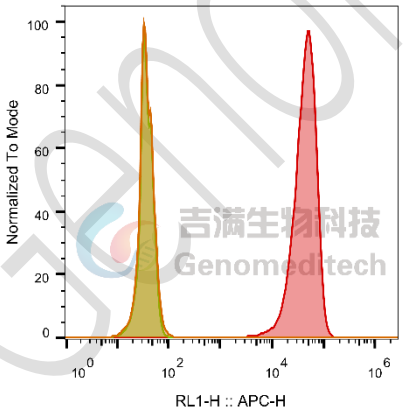
Reagent	Manufacturer/Catalogue No.
RPMI 1640	gibco/C11875500BT
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Hygromycin	Genomeditech/GM-040403
Puromycin	Genomeditech/GM-040401
H_PVR(CD155) aAPC CHO-K1 Cell Line	Genomeditech/GM-C24690
Anti-H_Tigit hIgG1 Antibody(Vibostolimab)	Genomeditech/GM-24029AB
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

Figures



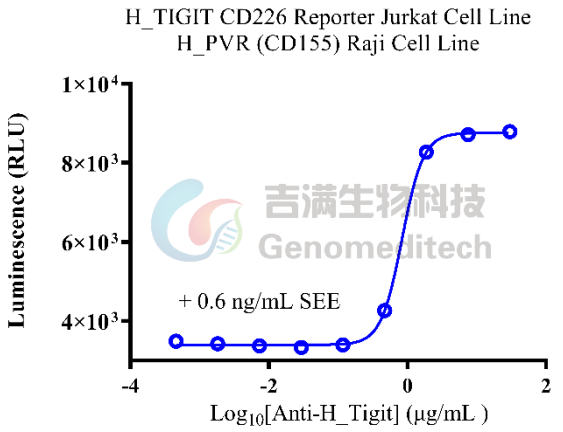
	H_TIGIT CD226 Reporter Jurkat
EC50	0.2897

Figure 1 | Response to Anti-H_Tigit hIgG1 Antibody(Vibostolimab). The H_PVR(CD155) aAPC CHO-K1 Cell Line (Cat. GM-C24690) were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-H_Tigit hIgG1 Antibody(Vibostolimab)(Cat. GM-24029AB) and the H_TIGIT CD226 Reporter Jurkat Cell Line(Cat. GM-C20072) at a density of 5E4 cells per well were added to the pre-seeded cells. The mixture was incubated for an additional 6 hours. Firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [5.8]. Data are presented based on drug mass concentration.



SampleID	Geometric Mean : RL1-H
Jurkat anti-H_Tigit+APC-2nd Ab	37.4
H_Tigit CD226 Jurkat H_IgG+APC-2nd Ab	37.8
H_Tigit CD226 Jurkat anti-H_Tigit+APC-2nd Ab	42102

Figure 2 | H_TIGIT CD226 Reporter Jurkat Cell Line (Cat. GM-C20072) was determined by flow cytometry using Anti-H_Tigit hIgG1 Antibody(Vibostolimab) (Cat. GM-24029AB).



	H_TIGIT CD226 Reporter Jurkat
EC50	0.8371

Figure 3 | Response to Anti-H_Tigit hIgG1 Antibody (Vibostolimab). Serial dilutions of the Anti-H_Tigit hIgG1 Antibody (Vibostolimab) (Cat. GM-24029AB) were incubated with 1E5 cells/well of the H_TIGIT CD226 Reporter Jurkat Cell Line (Cat. GM-C20072) in a 96-well plate for 30 minutes. Separately, 60 pg/well of SEE was incubated with 2E4 cells/well of the H_PVR (CD155) Raji Cell Line (Cat. GM-C09243) in a 96-well plate for 30 minutes. The two mixtures were then combined and incubated for an additional 16 hours. Firefly luciferase activity was then measured using the Luciferase Reporter Assay Kit (Genomeditech). The results indicated a maximum blocking fold of approximately [2.5]. Data are presented as drug mass concentration.

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.

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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+200 μg/mL Hygromycin+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

TIGIT:PVR:CD155:CD226	
Cynomolgus_TIGIT CHO-K1 Cell Line	H_CD226 CHO-K1 Cell Line
H_PVR(CD155) CHO-K1 Cell Line	H_PVR(CD155) Raji Cell Line
H_TIGIT CHO-K1 Cell Line	
Anti-H_Tigit hIgG1 Antibody(Vibostolimab)	
Human TIGIT Protein; His Tag	

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