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Product Sheet

H_TREM1 Blockade Reporter Jurkat Cell Line

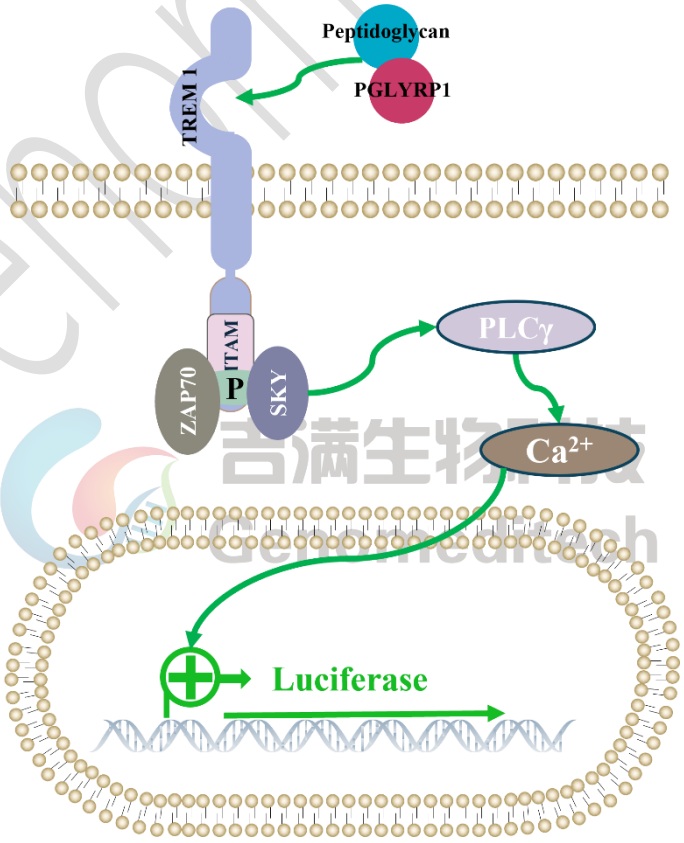
Catalog number: GM-C15720

Version 3.3.1.251212

TREM1 (Triggering Receptor Expressed on Myeloid Cells 1) is a receptor on monocytes and neutrophils that regulates the immune system by enhancing the inflammatory response and promoting cytokine release. It plays a crucial role in infections and trauma, with overactivation linked to conditions like sepsis, ARDS, and autoimmune diseases.

The TREM1 signaling pathway is activated upon ligand binding, which triggers downstream signaling molecules. This process activates the ITAM (Immunoreceptor Tyrosine Activation Motif) domain, recruiting tyrosine kinases such as SYK and ZAP-70, leading to further signaling events. These pathways increase the production of inflammatory factors like TNF-α and IL-1β, enhancing immune cell function. Regulating TREM1 is vital for maintaining immune balance and preventing excessive inflammation.

H_TREM1 Blockade Reporter Jurkat Cell Line is a clonal stable Jurkat cell line constructed using lentiviral technology, constitutive expression of the TREM1 chimeric gene, along with signal-dependent expression of a luciferase reporter gene. When TREM Ligends binds to TREM1, it activates downstream signaling pathways, leading to the expression of luciferase. 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 TREM1.



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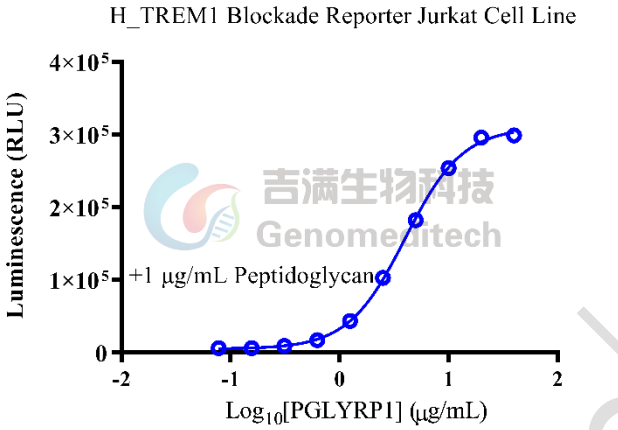
Specifications

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+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

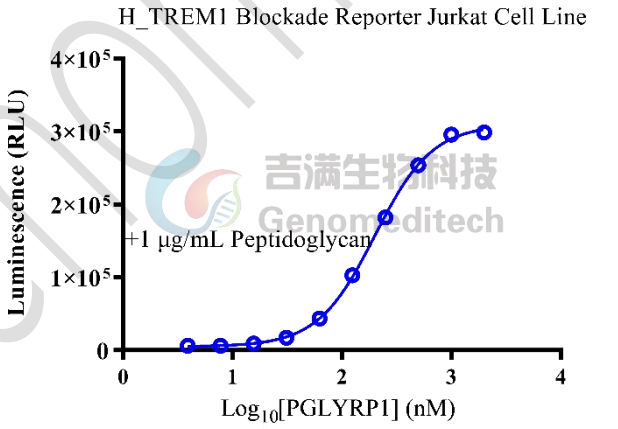
Reagent	Manufacturer/Catalogue No.
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Puromycin	Genomeditech/GM-040401
Anti-TREM1 hIgG1 Antibody	Genomeditech/GM-26835AB
Human PGLYRP1 Protein; His Tag	Genomeditech/GM-87969RP
Peptidoglycan	ABMole/M21611
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

Figures



	H_TREM1 Blockade Reporter Jurkat
EC50	4.015

Figure 1 | Response to Human PGLYRP1 Protein; His Tag. The H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human PGLYRP1 Protein; His Tag (Cat. GM-87969RP) and 1 μg/mL Peptidoglycan (ABMole/M21611) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [43.7]. Data are shown by drug mass concentration.



	H_TREM1 Blockade Reporter Jurkat
EC50	200.7

Figure 2 | Response to PGLYRP1 and Peptidoglycan. The H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human PGLYRP1 Protein; His Tag (Cat. GM-87969RP) and 1 μg/mL Peptidoglycan in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [32.9]. Data are shown by drug molar concentration.

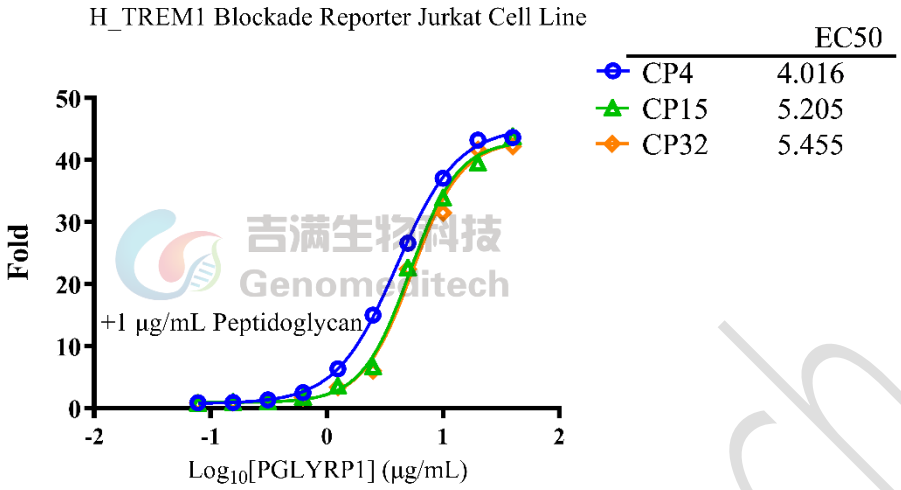
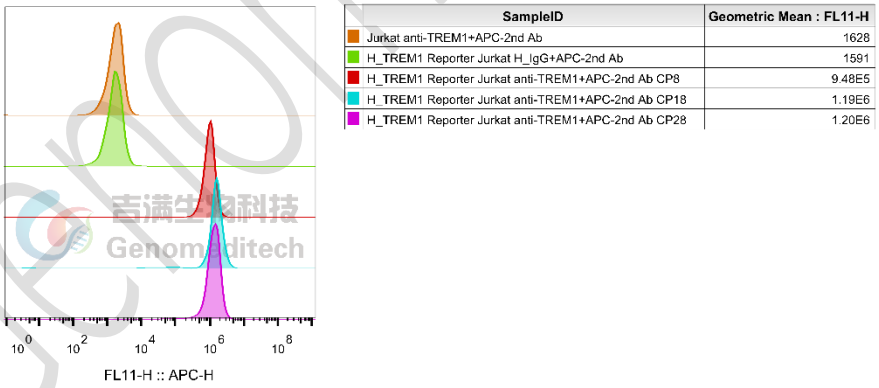


Figure 3 | The passage stability of response to Human PGLYRP1 Protein; His Tag. The passage 4, 15, and 32 of H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well (96-well format) were stimulated with serial dilutions of Human PGLYRP1 Protein; His Tag (Cat. GM-87969RP) and 1 μg/mL Peptidoglycan (ABMole/M21611) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug mass concentration.



SampleID	Geometric Mean : FL11-H
Jurkat anti-TREM1+APC-2nd Ab	1628
H_TREM1 Reporter Jurkat H_IgG+APC-2nd Ab	1591
H_TREM1 Reporter Jurkat anti-TREM1+APC-2nd Ab CP8	9.48E5
H_TREM1 Reporter Jurkat anti-TREM1+APC-2nd Ab CP18	1.19E6
H_TREM1 Reporter Jurkat anti-TREM1+APC-2nd Ab CP28	1.20E6

Figure 4 | The passage stability of the H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) was determined by flow cytometry using Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB).

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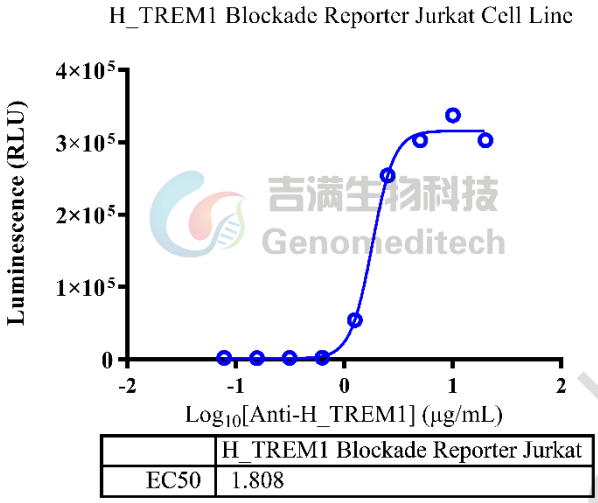
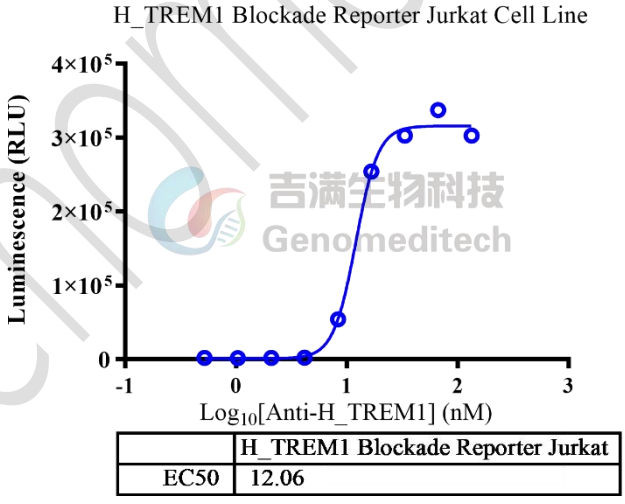


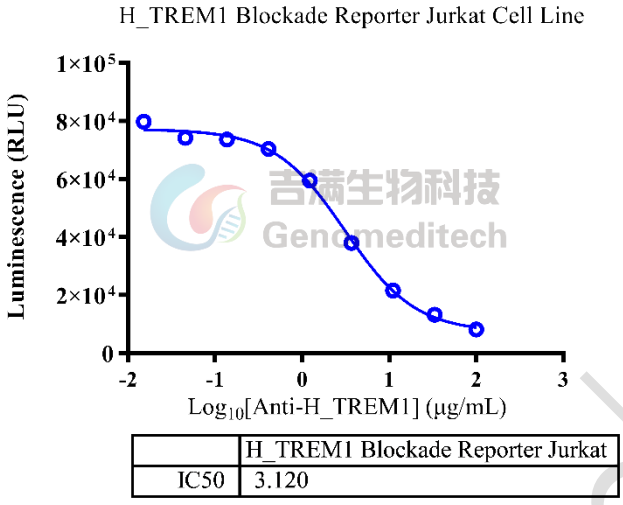
	H_TREM1 Blockade Reporter Jurkat
EC50	1.808

Figure 5 | Response to Anti-H_TREM1 hIgG1 Antibody. H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well in a 96-well format. The wells were coated overnight with serial dilutions of Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). After coating, the cells were added and incubated for 24 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [178.8]. Data are shown by drug mass concentration.



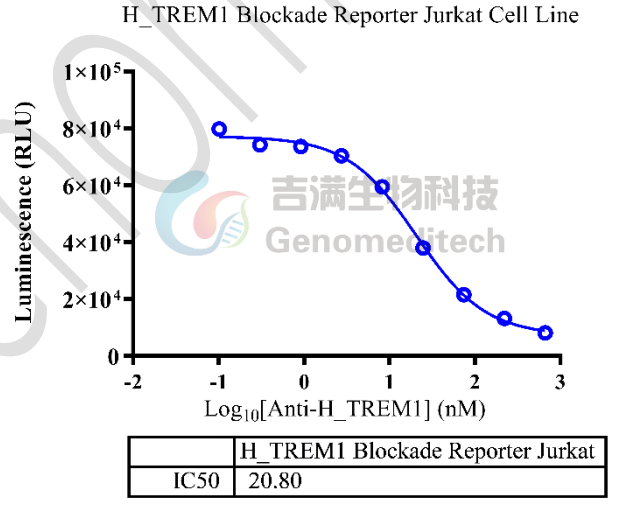
	H_TREM1 Blockade Reporter Jurkat
EC50	12.06

Figure 6 | Response to Anti-H_TREM1 hIgG1 Antibody. H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well in a 96-well format. The wells were coated overnight with serial dilutions of Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S). After coating, the cells were added and incubated for 24 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [178.8]. Data are shown by drug molar concentration.



	H_TREM1 Blockade Reporter Jurkat
IC50	3.120

Figure 7 | Response to Anti-H_TREM1 hIgG1 Antibody. Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB) was seeded at a density of 0.18 μg/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB) were incubated with 1E5 cells/well of the H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) in a 96-well plate, and then added to the pre-seeded plate. The mixture was incubated for an additional 24 hours. Firefly luciferase activity is then measured using the Luciferase Reporter Assay Kit (Genomeditech). The results indicated maximum blocking folds of approximately [9.8]. Data are shown by drug mass concentration.



	H_TREM1 Blockade Reporter Jurkat
IC50	20.80

Figure 8 | Response to Anti-H_TREM1 hIgG1 Antibody. Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB) was seeded at a density of 0.18 μg/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-H_TREM1 hIgG1 Antibody (Cat. GM-26835AB) were incubated with 1E5 cells/well of the H_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) in a 96-well plate, and then added to the pre-seeded plate. The mixture was incubated for an additional 24 hours. Firefly luciferase activity is then measured using the Luciferase Reporter

Assay Kit (Genomeditech). The results indicated maximum blocking folds of approximately [9.8]. Data are shown by drug molar 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.

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

TREM1	
Cynomolgus_TREM1 CHO-K1 Cell Line	Cynomolgus_TREM1 HEK-293 Cell Line
H_TREM1 CHO-K1 Cell Line	H_TREM1 HEK-293 Cell Line
Mouse_TREM1 CHO-K1 Cell Line	
Anti-TREM1 hIgG1 Antibody	
Human PGLYRP1 Protein; His Tag	
TREM2	
H_TREM2 Reporter Jurkat Cell Line	Cynomolgus_TREM2 CHO-K1 Cell Line
Cynomolgus_TREM2 HEK-293 Cell Line	H_TREM2 CHO-K1 Cell Line
H_TREM2 HEK-293 Cell Line	Mouse_TREM2 HEK-293 Cell Line
Anti-H_TREM2 hIgG4 Antibody	Anti-H_TREM2 Rat_IgG2b Antibody
Anti-TREM2 hIgG1 Antibody	
CLEC5a	
Cynomolgus_CLEC5a CHO-K1 Cell Line	H_CLEC5a CHO-K1 Cell Line
CLEC7A(Dectin-1)	
H_Dectin-1a Reporter Jurkat Cell Line	H_Dectin-1a CHO-K1 Cell Line
H_Dectin-1a HEK-293 Cell Line	H_Dectin-1b CHO-K1 Cell Line
H_Dectin-1b HEK-293 Cell Line	
Anti-CLEC7A hIgG1 Antibody(2M24)	Anti-CLEC7A hIgG4 Antibody(15E2.5)

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