Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

H_TREM2 Reporter Jurkat Cell Line

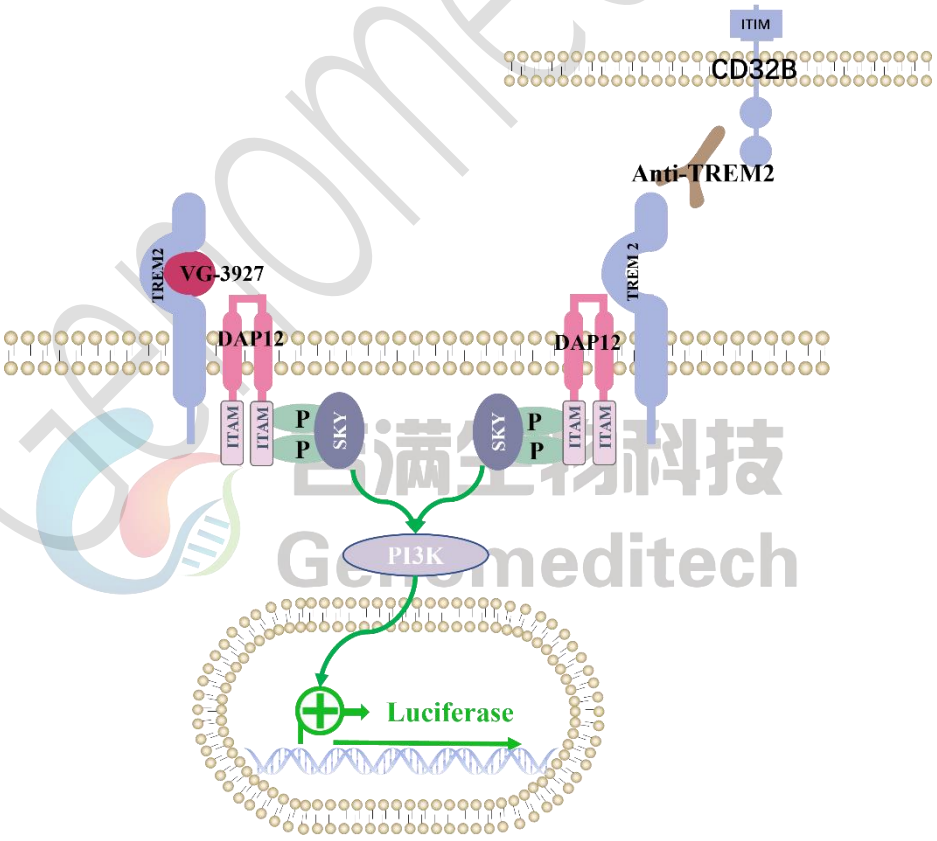
Catalog number: GM-C44356

Version 3.3.1.260126

TREM2 (Triggering Receptor Expressed on Myeloid Cells 2) is a receptor primarily in microglia and myeloid cells, involved in immune regulation and inflammation. Its activation is associated with neurodegenerative diseases like Alzheimer's, and mutations are linked to disease mechanisms. TREM2 promotes cell survival, proliferation, and inflammatory regulation through ligand binding, aiding immune surveillance in the central nervous system.

It signals through the DAP12 adapter. Ligand binding triggers an ITAM phosphorylation cascade, activating PLCγ via Syk kinase. This produces IP_3, raising intracellular Ca^{2+} and ultimately driving anti-inflammatory responses and phagocytosis.

H_TREM2 Reporter Jurkat Cell Line is a clonal stable Jurkat cell line constructed using lentiviral technology, constitutive expression of the TREM2 and DAP12 gene, along with signal-dependent expression of a luciferase reporter gene. When TREM2 Activators binds to TREM2, 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 TREM2.



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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+400 μg/mL G418+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
G418	Genomeditech/GM-040402
Puromycin	Genomeditech/GM-040401
H_FCGR2B(CD32B) CHO-K1 Cell Line	Genomeditech/GM-C16925
Anti-TREM2 hIgG1 Antibody(AL002)	Genomeditech/GM-88284AB
VG-3927	probechem/PC-24792
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

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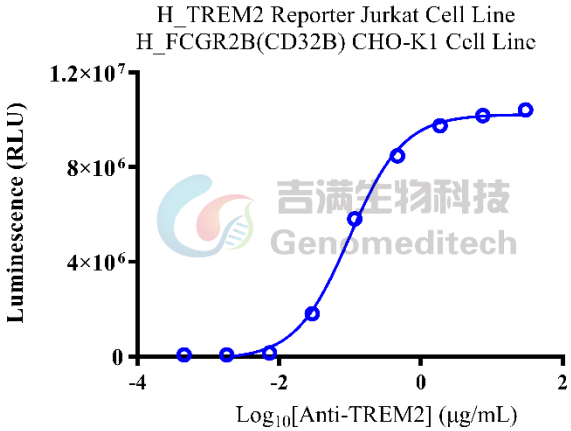
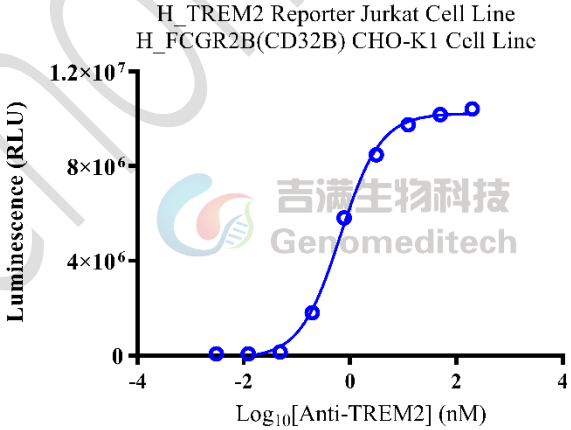
Figures



	H_TREM2 Reporter Jurkat
EC50	0.09902

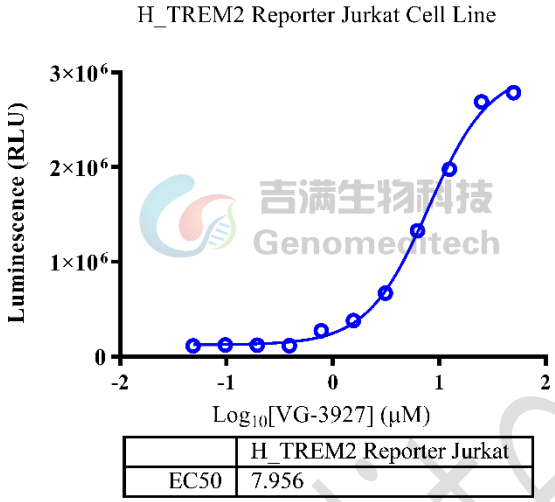
Figure 1 | Response to Anti-TREM2 hIgG1 Antibody(AL002). The H_FCGR2B (CD32B) CHO-K1 Cell Line (Cat. GM-C16925) were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-TREM2 hIgG1 Antibody(AL002) Cat. GM-88284AB) and the H_TREM2 Reporter Jurkat Cell Line (Cat. GM-C44356) at a concentration of 5E4 cells per well were added to the pre-seeded cells. The mixture was incubated for an additional 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech).The maximum induction fold was approximately [208.1]. Data are shown by drug mass concentration.



	H_TREM2 Reporter Jurkat
EC50	0.6602

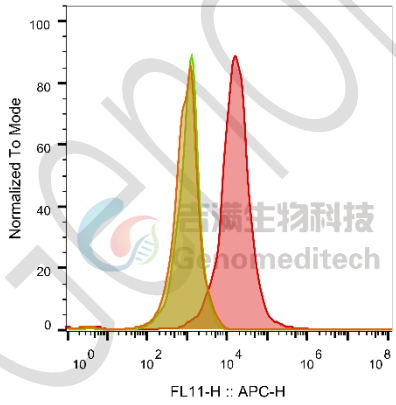
Figure 2 | Response to Anti-TREM2 hIgG1 Antibody(AL002). The H_FCGR2B (CD32B) CHO-K1 Cell Line (Cat. GM-C16925) were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-TREM2 hIgG1 Antibody(AL002) Cat. GM-88284AB) and the H_TREM2 Reporter Jurkat Cell Line (Cat. GM-C44356) at a concentration of 5E4 cells per well were added to the pre-seeded cells. The mixture was incubated for an additional 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay

Kit (Genomeditech).The maximum induction fold was approximately [208.1].data is shown by drug molar concentration.



	H_TREM2 Reporter Jurkat
EC50	7.956

Figure 3 | Response to VG-3927. H_TREM2 Reporter Jurkat Cell Line(Cat. GM-C44356) at a concentration of 5E4 cells/well (96-well format) was stimulated with serial dilutions of VG-3927 (probechem/PC-24792) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 16 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [28.6]. Data are shown by drug molar concentration.



SampleID	Geometric Mean : FL11-H
Jurkat anti-TREM2+APC-2nd Ab	891
H_TREM2 Reporter Jurkat H_IgG+APC-2nd Ab	1027
H_TREM2 Reporter Jurkat anti-TREM2+APC-2nd Ab	13967

Figure 4 | H_TREM2 Reporter Jurkat Cell Line (Cat. GM-C44356) was determined by flow cytometry using Anti-TREM2 hIgG1 Antibody(AL002) (Cat. GM-88284AB).

Cell Recovery

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

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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+400 μg/mL G418+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

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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

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	

License Agreement:

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

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