

Product Sheet

H_TREM1 Reporter Jurkat Cell Line

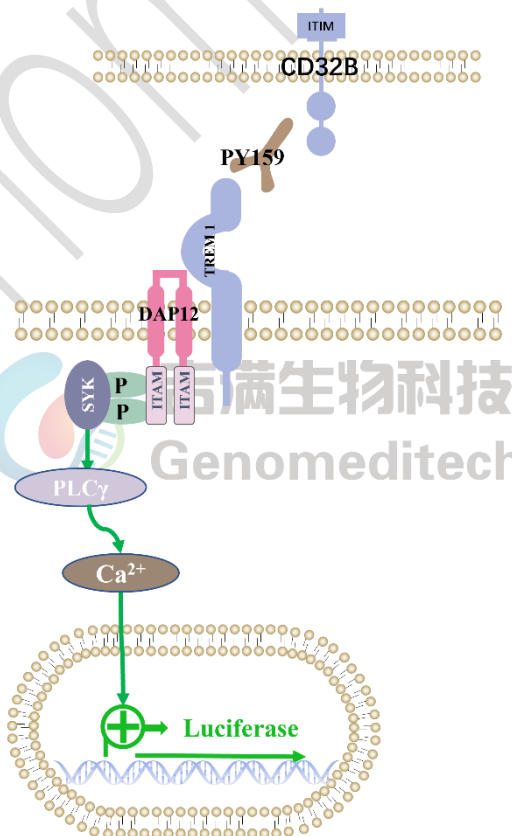
Catalog number: GM-C44546

Version 3.3.1.260717

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-1 β , enhancing immune cell function. Regulating TREM1 is vital for maintaining immune balance and preventing excessive inflammation.

H_TREM1 Reporter Jurkat Cell Line is a clonal stable Jurkat cell line constructed using lentiviral technology, constitutive expression of the TREM1 and DAP12 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.



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.
Anti-TREM1 hIgG1 Antibody(PY159)	Genomeditech/GM-88438AB
H_FCGR2B(CD32B) CHO-K1 Cell Line	Genomeditech/ GM-C16925
Puromycin	Genomeditech/ GM-040401
Blasticidin	Genomeditech/ GM-040404
G418	Genomeditech/ GM-040402
Pen/Strep	Thermo/15140-122
Fetal Bovine Serum	ExCell/FSP500
RPMI 1640	gibco/C11875500BT
DAP12 Antibody (YA1651)	MCE/HY-P81906
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/ GM-040513

Figures

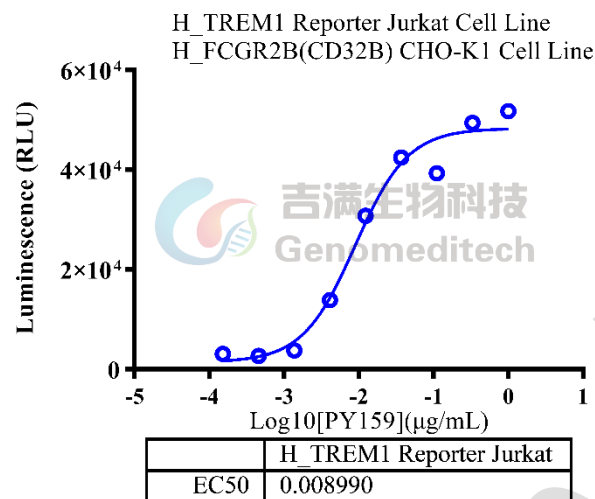


Figure 1 | Response to Anti-TREM1 hIgG1 Antibody(PY159). The H_FCGR2B (CD32B) CHO-K1 Cell Line (Cat. [GM-C16925](#)) were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-TREM1 hIgG1 Antibody(PY159, Cat. GM-88438AB) and the H_TREM1 Reporter Jurkat Cell Line (Cat. GM-C44546) 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 [24.6]. Data are presented based on drug mass concentration.

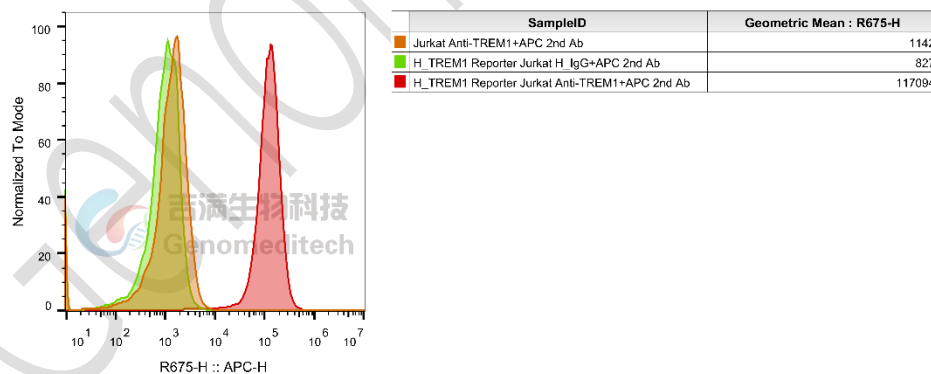


Figure 2 | H_TREM1 Reporter Jurkat Cell Line (Cat. GM-C44546) was determined by flow cytometry using Anti-TREM1 hIgG1 Antibody (Cat. GM-26835AB).

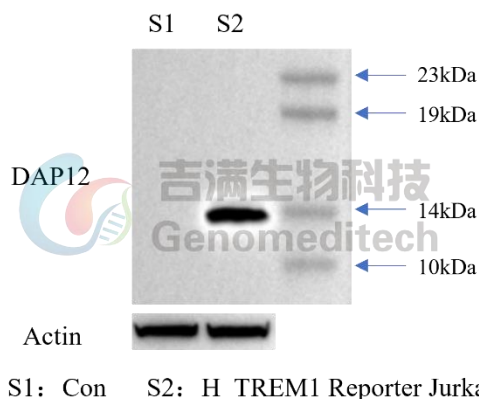


Figure 3 | The protein expression levels of DAP12 in the H_TREM1 Reporter Jurkat Cell Line(Cat. GM-C44546) were determined by Western blotting (WB).

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.

- 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).
- 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.
- 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.
- Resuspend cell pellet with the recommended complete medium. And dispense the suspension into 1 - 2 T-25 culture flasks.
- Incubate the culture at 37°C in a suitable incubator. A 5% CO₂ in air atmosphere is recommended if using the medium described on this product sheet.

Cell Freezing

Freezing Medium: 90% FBS+10% DMSO

- Centrifuge at 176 x g for 3 minutes to collect cells.
- Resuspend the cells in pre-cooled freezing medium and adjust the cell density to 5E6 cells/mL.
- Aliquot 1 mL into each vial.
- 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.

- When the cell density reaches 1.5 - 2E6 cells/mL, subculture the cells. Do not allow the cell density to exceed 2E6 cells/mL.
- It is recommended to use T-25 flasks for subculturing.
- These cells are suspension cells, and it is recommended to use the "half-medium change" method to maintain optimal cell conditions during passaging.
- 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

- These cells are sensitive to density, so please ensure that the cell density is maintained within an appropriate range during culture and subculturing.
- 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	
H_TREM1 Blockade Reporter Jurkat Cell Line	Cynomolgus_TREM1 CHO-K1 Cell Line
Cynomolgus_TREM1 HEK-293 Cell Line	H_PGLYRP1 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	Anti-TREM1 hIgG1 Antibody(Clone A)
Anti-TREM1 hIgG1 Antibody(mAb0170)	Anti-TREM1 hIgG1 Antibody(PY159)
Anti-TREM1 mIgG1 Antibody(PY159)	Anti-TREM1 mIgG2a Antibody(PY159)
Anti-TREM1 mIgG2b Antibody(PY159)	
Cynomolgus TREM1 Protein; His Tag	Human PGLYRP1 Protein; His Tag
Human TREM1 Protein; hFc Tag	Human TREM1 Protein; His Tag

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