

# Product Sheet

## H\_TREM1 Blockade Reporter Jurkat Cell Line

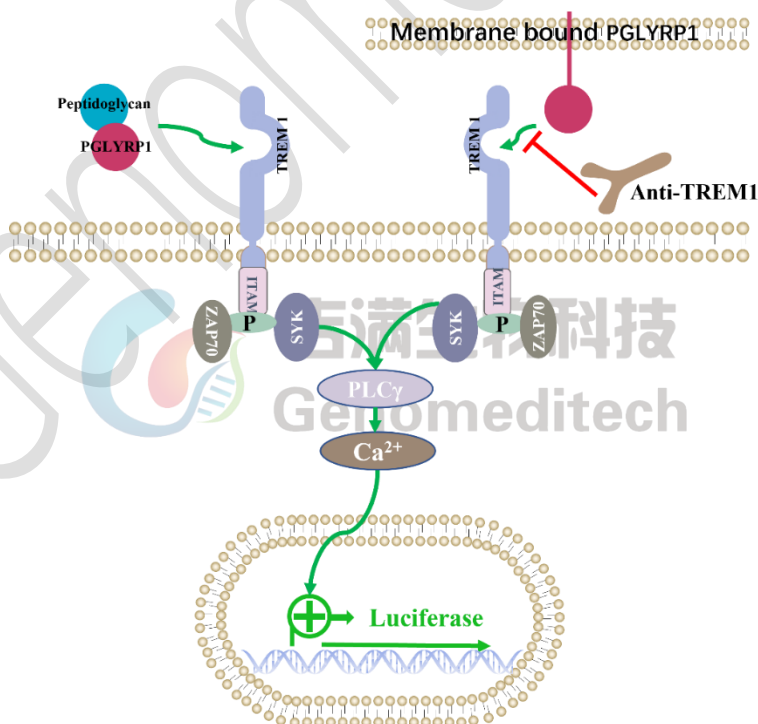
Catalog number: GM-C15720

Version 3.3.1.260521

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- $\alpha$  and IL-1 $\beta$ , 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.



## Specifications

<b>Quantity</b>	5E6 Cells per vial, 1 mL
<b>Product Format</b>	1 vial of frozen cells
<b>Shipping</b>	Shipped on dry ice
<b>Storage Conditions</b>	Liquid nitrogen immediately upon receipt
<b>Recovery Medium</b>	RPMI 1640+10% FBS+1% P.S
<b>Growth medium</b>	RPMI 1640+10% FBS+1% P.S+3.5 µg/mL Blasticidin+0.75 µg/mL Puromycin
<b>Note</b>	None
<b>Freezing Medium</b>	90% FBS+10%DMSO
<b>Growth properties</b>	Suspension
<b>Growth Conditions</b>	37°C, 5% CO <sub>2</sub>
<b>Mycoplasma Testing</b>	The cell line has been screened to confirm the absence of Mycoplasma species.
<b>Safety considerations</b>	Biosafety Level 2
<b>Note</b>	It is recommended to expand the cell culture and store a minimum of 10 vials at an early passage for potential future use.

## Materials

<b>Reagent</b>	<b>Manufacturer/Catalogue No.</b>
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/ <a href="#">GM-040404</a>
Puromycin	Genomeditech/ <a href="#">GM-040401</a>
Anti-TREM1 hIgG1 Antibody	Genomeditech/ <a href="#">GM-26835AB</a>
Human PGLYRP1 Protein; His Tag	Genomeditech/ <a href="#">GM-87969RP</a>
Peptidoglycan	ABMole/M21611
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/ <a href="#">GM-040513</a>
H_PGLYRP1 HEK-293 Cell Line	Genomeditech/ <a href="#">GM-C41231</a>
Anti-TREM1 hIgG1 Antibody(mAb0170)	Genomeditech/ <a href="#">GM-26834AB</a>

## Figures

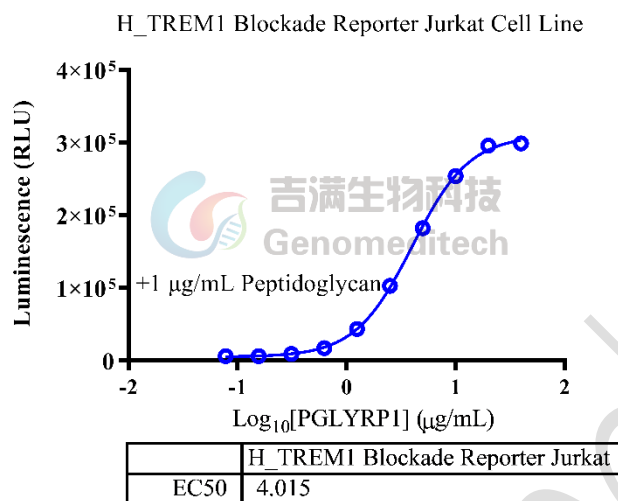


Figure 1 | Response to Human PGLYRP1 Protein; His Tag. The H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human PGLYRP1 Protein; His Tag (Cat. [GM-87969RP](#)) and 1 µg/mL Peptidoglycan (ABMole/M21611) 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.

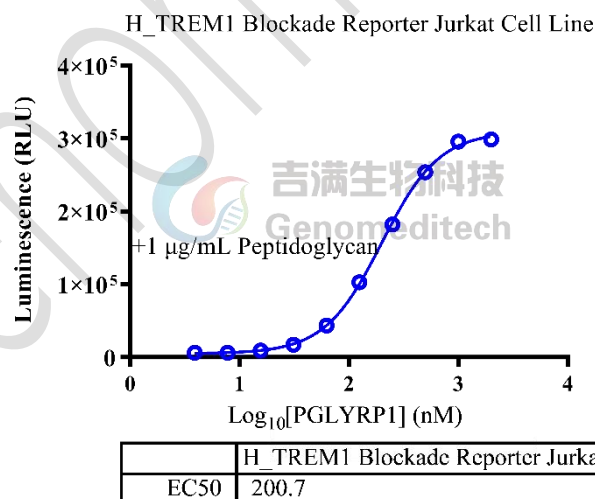


Figure 2 | Response to PGLYRP1 and Peptidoglycan. The H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human PGLYRP1 Protein; His Tag (Cat. [GM-87969RP](#)) and 1 µg/mL Peptidoglycan in assay buffer (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.

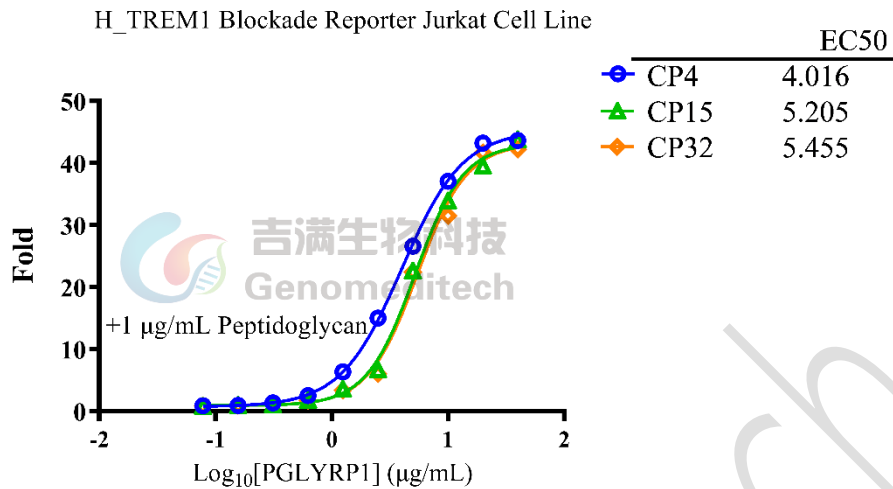


Figure 3 | The passage stability of response to Human PGLYRP1 Protein; His Tag. The passage 4, 15, and 32 of H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well (96-well format) were stimulated with serial dilutions of Human PGLYRP1 Protein; His Tag (Cat. [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.

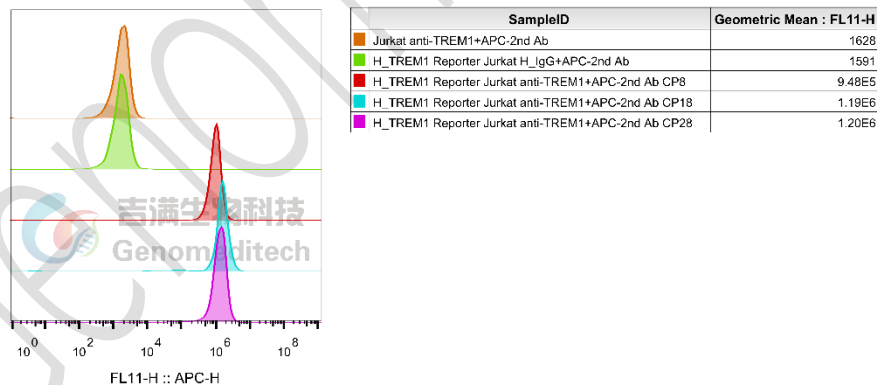


Figure 4 | The passage stability of the H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) was determined by flow cytometry using Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)).

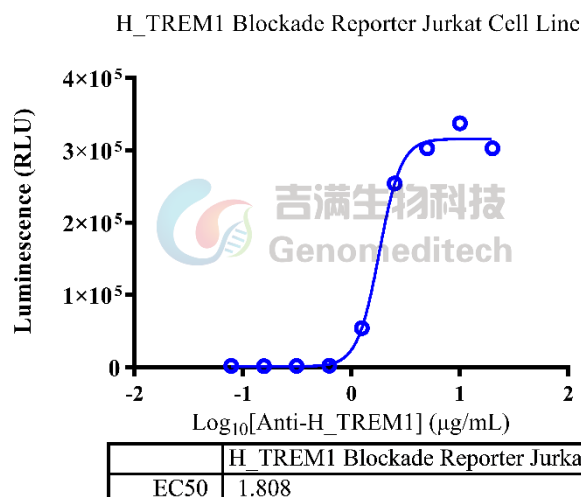


Figure 5 | Response to Anti-H\_TREM1 hIgG1 Antibody. H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well in a 96-well format. The wells were coated overnight with serial dilutions of Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)) in assay buffer (RPMI 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.

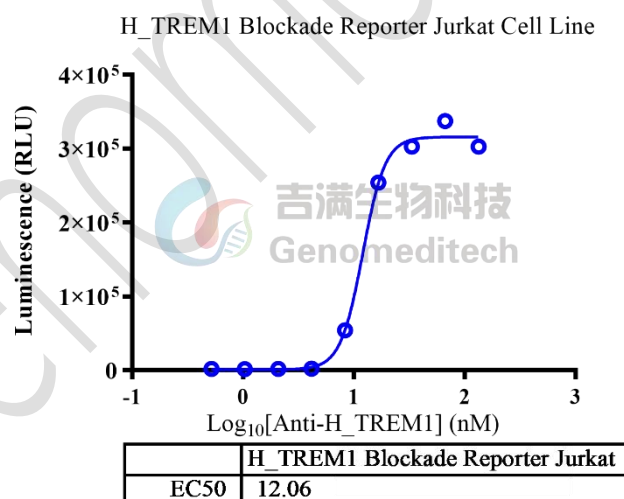


Figure 6 | Response to Anti-H\_TREM1 hIgG1 Antibody. H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. GM-C15720) at a concentration of 1E5 cells/well in a 96-well format. The wells were coated overnight with serial dilutions of Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)) in assay buffer (RPMI 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.

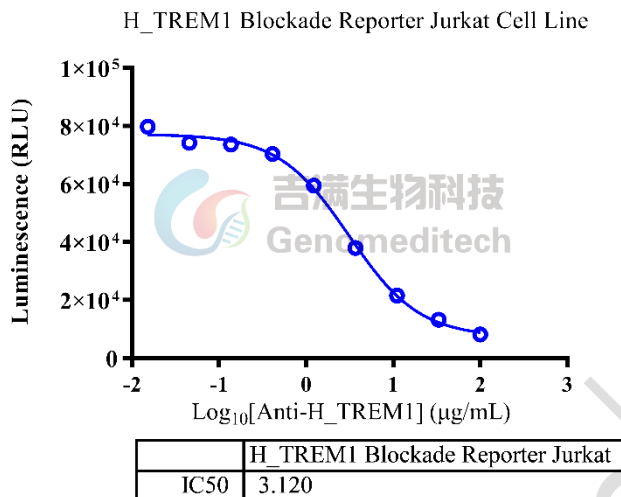


Figure 7 | Response to Anti-H\_TREM1 hIgG1 Antibody. Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)) was seeded at a density of 0.18 µg/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)) were incubated with 1E5 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.

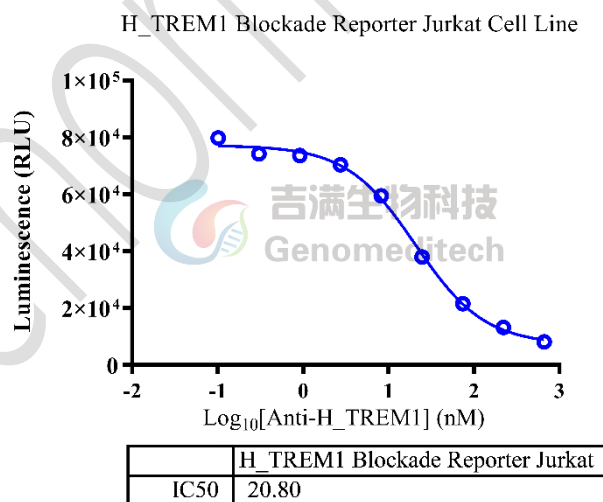


Figure 8 | Response to Anti-H\_TREM1 hIgG1 Antibody. Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)) was seeded at a density of 0.18 µg/well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-H\_TREM1 hIgG1 Antibody (Cat. [GM-26835AB](#)) were incubated with 1E5 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.

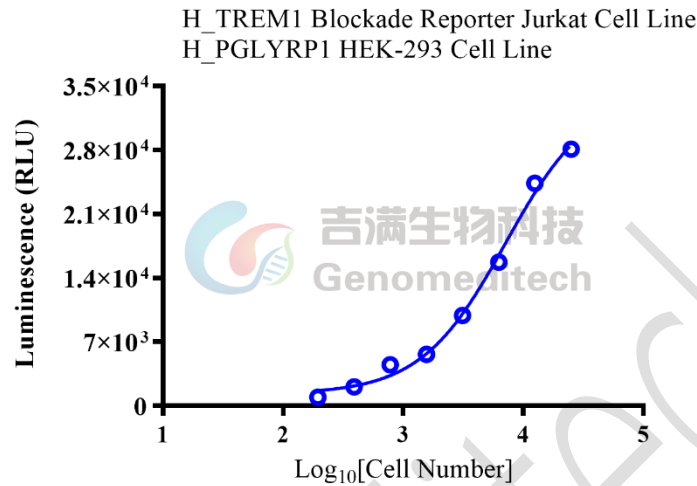


Figure 9 | Response to The H\_PGLYRP1 HEK-293 Cell Line. The H\_PGLYRP1 HEK-293 Cell Line (Cat. [GM-C41231](#)) at a concentration of 5E4 cells/well was co-cultured with H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. [GM-C15720](#)) at a concentration of 1E5 cells/well, in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours (96-well format). The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. [GM-040503](#)). The maximum induction fold was approximately [79.1].

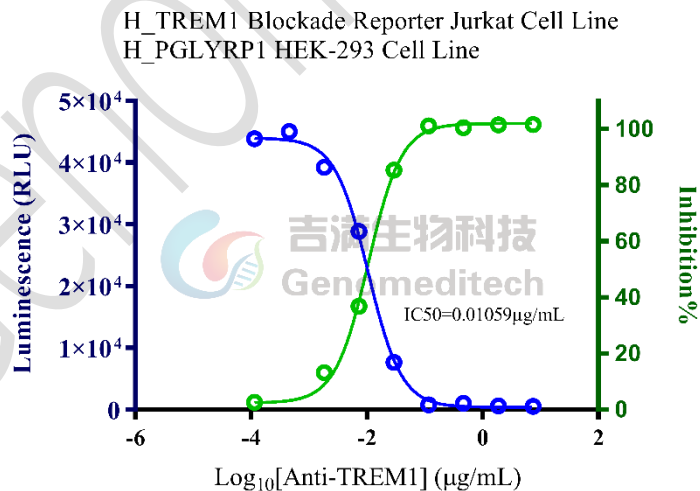


Figure 10 | Inhibition of H\_PGLYRP1 HEK-293 Cell Line cell-induced reporter activity by Anti-TREM1 hIgG1 Antibody(mAb0170). H\_PGLYRP1 HEK-293 Cell Line (Cat. [GM-C41231](#)) was seeded at a density of 1.5E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Anti-TREM1 hIgG1 Antibody(mAb0170) (Cat. [GM-26834AB](#)) were incubated with 1E5 cells/well of the H\_TREM1 Blockade Reporter Jurkat Cell Line (Cat. [GM-C15720](#)) 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 Luciferase Reporter Assay Kit (Genomeditech)(left Y-axis, relative luminescence units), with inhibition percentages shown on the right Y-axis.

## 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  $-70^{\circ}\text{C}$ . Storage at  $-70^{\circ}\text{C}$  will result in loss of viability.

- Thaw the vial by gentle agitation in a  $37^{\circ}\text{C}$  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  $176 \times g$  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  $37^{\circ}\text{C}$  in a suitable incubator. A 5%  $\text{CO}_2$  in air atmosphere is recommended if using the medium described on this product sheet.

## Cell Freezing

Freezing Medium: 90% FBS+10%DMSO

- Centrifuge at  $176 \times g$  for 3 minutes to collect cells.
- Resuspend the cells in pre-cooled freezing medium and adjust the cell density to  $5 \times 10^6$  cells/mL.
- Aliquot 1 mL into each vial.
- Place the vial in a controlled-rate freezing container and store at  $-80^{\circ}\text{C}$  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  $\mu\text{g}/\text{mL}$  Blasticidin+0.75  $\mu\text{g}/\text{mL}$  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  $1.5 - 2 \times 10^6$  cells/mL, subculture the cells. Do not allow the cell density to exceed  $2 \times 10^6$  cells/mL.
- 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 concentration 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	
<a href="#">Cynomolgus_TREM1 CHO-K1 Cell Line</a>	<a href="#">Cynomolgus_TREM1 HEK-293 Cell Line</a>
<a href="#">H_PGLYRP1 HEK-293 Cell Line</a>	<a href="#">H_TREM1 CHO-K1 Cell Line</a>
<a href="#">H_TREM1 HEK-293 Cell Line</a>	<a href="#">Mouse_TREM1 CHO-K1 Cell Line</a>
<a href="#">Anti-TREM1 hIgG1 Antibody</a>	<a href="#">Anti-TREM1 hIgG1 Antibody(Clone A)</a>
<a href="#">Anti-TREM1 hIgG1 Antibody(mAb0170)</a>	<a href="#">Anti-TREM1 hIgG1 Antibody(PY159)</a>
<a href="#">Anti-TREM1 mIgG1 Antibody(PY159)</a>	<a href="#">Anti-TREM1 mIgG2a Antibody(PY159)</a>
<a href="#">Anti-TREM1 mIgG2b Antibody(PY159)</a>	
<a href="#">Cynomolgus TREM1 Protein; His Tag</a>	<a href="#">Human PGLYRP1 Protein; His Tag</a>
<a href="#">Human TREM1 Protein; hFc Tag</a>	<a href="#">Human TREM1 Protein; His Tag</a>

## License Agreement:

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

- This cell line product is restricted to research use only and shall not be used for any commercial purposes.
- This product is strictly prohibited from being used in the diagnosis or treatment of human or animal diseases, and shall not be directly used in experiments involving humans.
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