

Product Sheet

H_CLEC4E(Mincle) Reporter Jurkat Cell Line

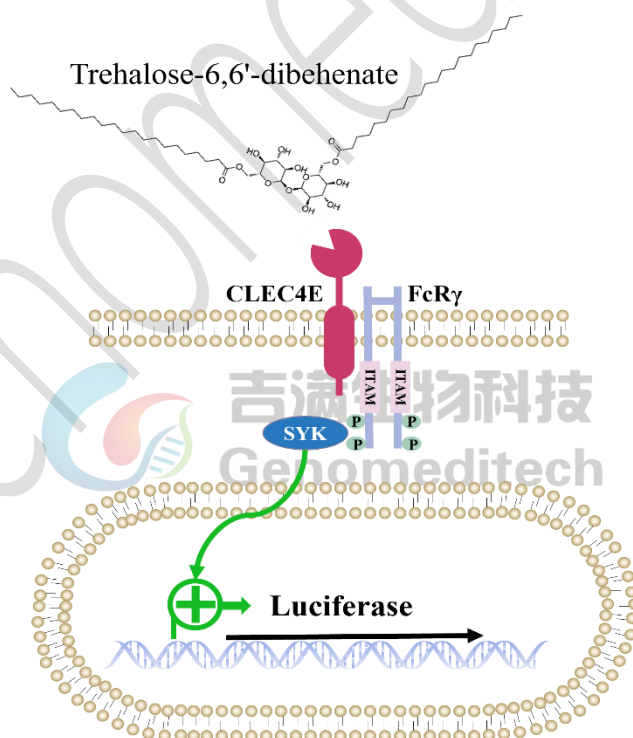
Catalog number: GM-C44062

Version 3.3.1.260708

CLEC4E (Mincle) is a myeloid-expressed CLR that senses DAMPs/PAMPs, including TDB, β -glucans, and SAP130. As a non-signaling receptor lacking ITAM, it couples with FcR γ to activate NFAT upon ligand binding, driving inflammation.

A key target for infectious disease and adjuvant development, Mincle is engaged by the CAF01 adjuvant (SSI) to boost Th1/Th17 responses in TB, flu, and COVID-19 vaccines. It also modulates sterile inflammation and TAM activity, highlighting its therapeutic potential.

H_CLEC4E(Mincle) Reporter Jurkat Cell Line is a clonal stable cell line constructed using lentiviral technology, constitutive expression of the CLEC4E and FcR γ gene, along with signal-dependent expression of a luciferase reporter gene. When Trehalose-6,6'-dibehenate binds to Mincle, 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 Mincle.



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
Trehalose-6,6'-dibehenate	MCE/HY-112137
FcR gamma (E6Y1A) Rabbit Monoclonal Antibody	Cell Signaling/78401T
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/ GM-040513

Figures

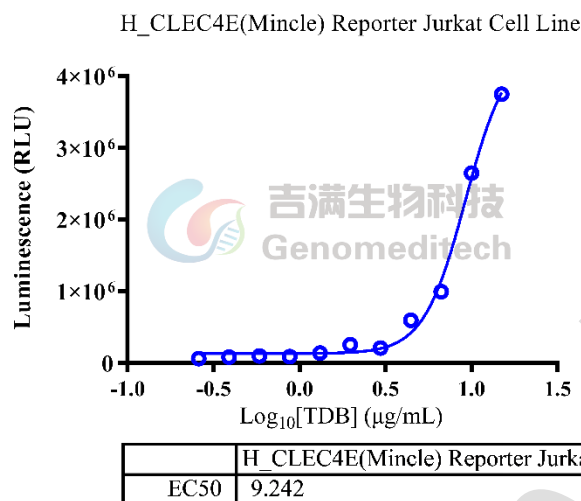


Figure 1 | Response to TDB. The H_CLEC4E(Mincle) Reporter Jurkat Cell Line (Cat. GM-C44062) at a concentration of 5E4 cells/well (96-well format) was stimulated with serial dilutions of Trehalose-6,6'-dibehenate (MCE/HY-112137) in assay buffer (RPMI 1640 + 10% FBS + 1% P.S) for 24 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [257.1]. Data are shown by drug mass concentration.

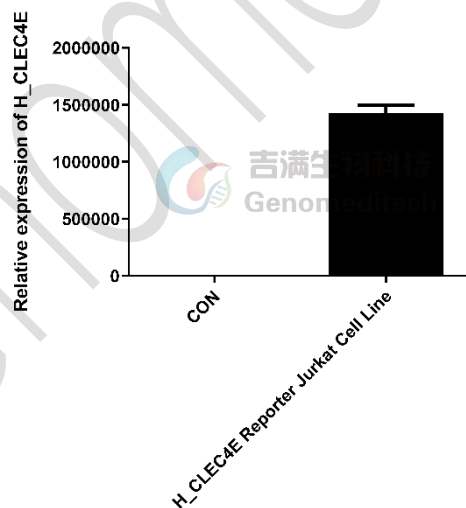
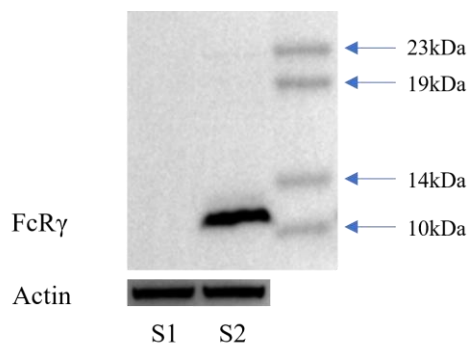


Figure 2 | The mRNA expression levels of H_CLEC4E in the H_CLEC4E(Mincle) Reporter Jurkat Cell Line (Cat. GM-C44062) were determined by RT-qPCR.



S1: Con S2: H_CLEC4E(Mincle) Reporter Jurkat Cell Line

Figure 3 | The protein expression levels of H_FcR gamma in the H_CLEC4E(Mincle) Reporter Jurkat Cell Line (Cat. GM-C44062) 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+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.

- 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 concentration 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.

License Agreement:

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