Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

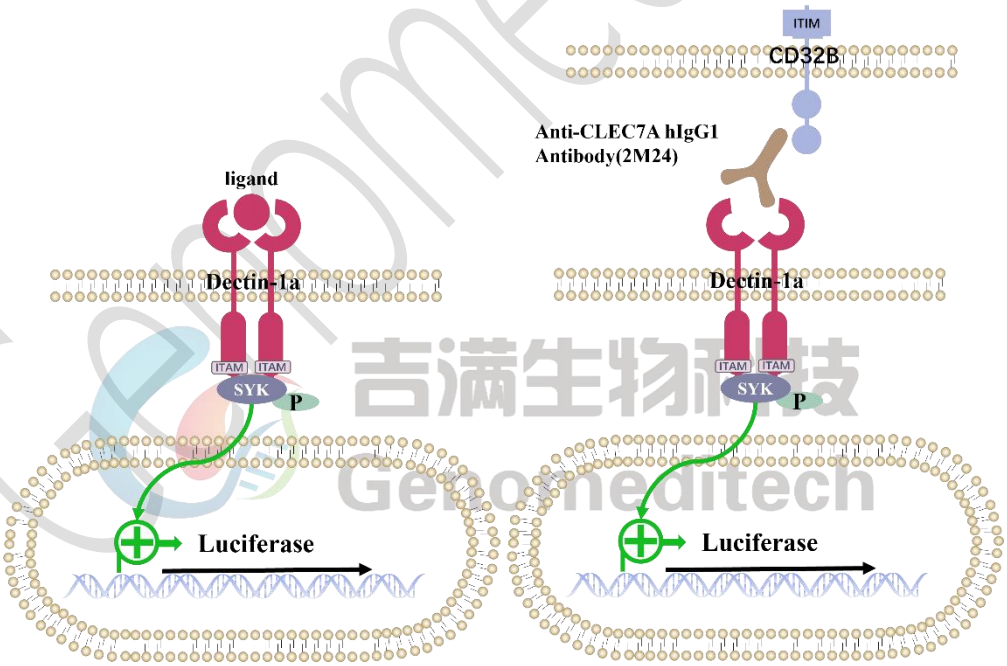
H_Dectin-1a Reporter Jurkat Cell Line

Catalog number: GM-C40327

Version 3.3.1.260330

Dectin-1a (CLEC7A) is a type II transmembrane C-type lectin receptor mainly expressed on myeloid immune cells such as monocytes, macrophages, dendritic cells, and neutrophils. It functions as a key pattern recognition receptor in the innate immune system, recognizing fungi and certain pathogens. Through its intracellular ITAM-like motif, Dectin-1a activates Syk kinase and triggers signaling pathways involving NF-κB, MAPK, and the CARD9–Bcl10–MALT1 complex, leading to the production of pro-inflammatory cytokines like IL-6, TNF-α, and IL-23. These responses enhance antifungal and antitumor immunity. As the major splice variant of the Dectin-1 gene, Dectin-1a has a more complete extracellular domain and stronger signaling ability than Dectin-1b, making it an important link between innate and adaptive immunity.

H_Dectin-1a Reporter Jurkat Cell Line is a clonal stable Jurkat cell line constructed using lentiviral technology, constitutive expression of the human Dectin-1a gene, along with signal-dependent expression of a luciferase reporter gene. When the drug binds to the receptor, 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 be used to evaluate the in vitro effects of related drugs.



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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	gibco/C11875500BT
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Puromycin	Genomeditech/GM-040401
polysaccharide substrate for laminarinase	MERCK/L9634
Anti-CLEC7A hIgG1 Antibody(2M24)	Genomeditech/GM-52426AB
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

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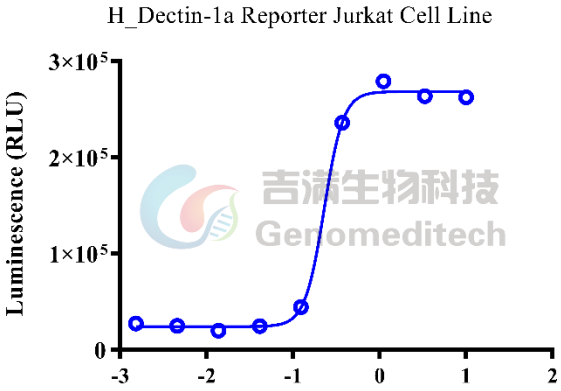
Figures



	H_Dectin-1a Reporter Jurkat
EC50	0.2289

Figure 1 | Response to polysaccharide substrate for laminarinase. The H_Dectin-1a Reporter Jurkat Cell Line (Cat. GM-C40327) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Laminaran (MERCK/L9634) 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 [8.3]. Data are shown by drug mass concentration.

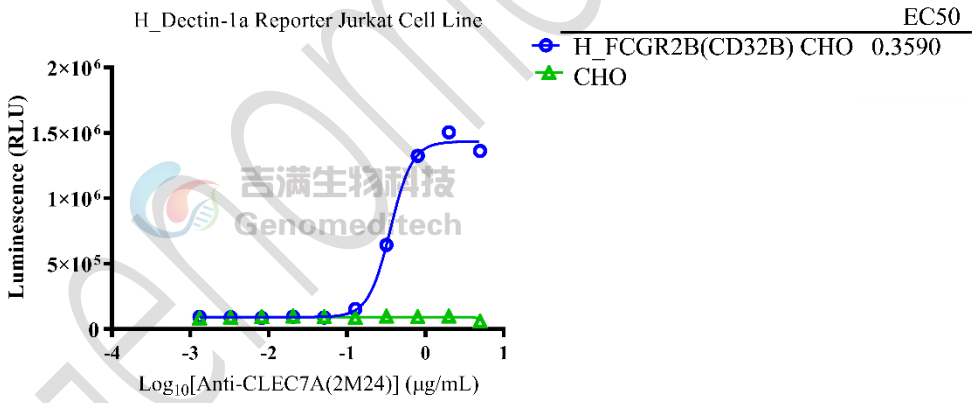


Figure 2 | Response to Anti-CLEC7A hIgG1 Antibody(2M24). The H_FCGR2B CHO-K1 Cell Line (Cat. GM-C16925) and the CHO-K1 Cell Line were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-CLEC7A hIgG1 Antibody(2M24) (Cat. GM-52426AB) and the H_Dectin-1a Reporter Jurkat Cell Line (Cat. GM-C40327) at a concentration of 1E5 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 [11.11]. Data are presented based on drug mass concentration.

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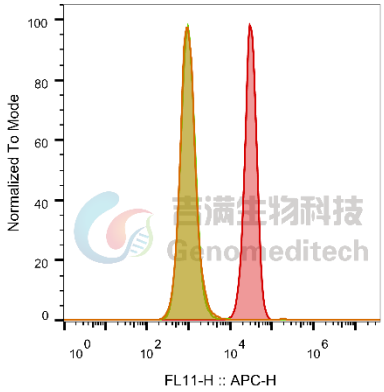

SampleID	Geometric Mean : FL11-H
Jurkat anti-CLEC7A+APC-2nd Ab	1029
H_Dectin-1a Reporter Jurkat H_IgG+APC-2nd Ab	1004
H_Dectin-1a Reporter Jurkat anti-CLEC7A+APC-2nd Ab	30819

Figure 3 | H_Dectin-1a Reporter Jurkat Cell Line (Cat. GM-C40327) was determined by flow cytometry using Anti-CLEC7A hIgG1 Antibody(2M24) (Cat. GM-52426AB).

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.

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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

CLEC7A	
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
Cynomolgus_Dectin-1a HEK-293 Cell Line	
Anti-CLEC7A hIgG1 Antibody(2M24)	Anti-CLEC7A hIgG4 Antibody(15E2.5)

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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