Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

H_IL15 Reporter Cell Line

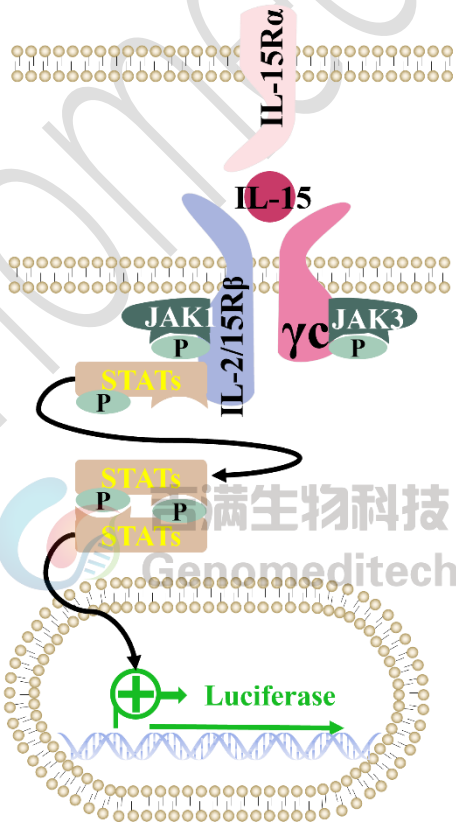
Catalog number: GM-C25386

Version 3.3.1.241028

Interleukin-15 (IL-15) is a pro-inflammatory protein that plays a role in the activation of neutrophils, dendritic cells, and macrophages. It is essential for the development and survival of NK cells and CD8+ T cells.

IL-15 binds to the IL-15Rα receptor and is subsequently presented to surrounding cells with the IL-15Rβγ complex on their surface. It then binds to the IL-15Rβ and IL-15Rγ(common gamma chain, γc) dimer, forming a heterotrimeric receptor complex. IL-15 triggers the phosphorylation of the JAK-STAT (Janus kinase-signal transducer and activator of transcription) pathway, after which the phosphorylated STATs dimerize or tetramerize and translocate into the nucleus.

H_IL15 Reporter Cell Line is a clonal, stable cell line that constitutively overexpresses IL-15Rβ and endogenously expresses the γc, along with signal-dependent expression of a luciferase reporter gene. The addition of IL15 ligand protein agonists stimulates IL15 to bind IL-15Rα, IL-15Rβ/γc, activating downstream reporter genes and inducing luciferase expression. This system can be used to evaluate the in vitro effects of drugs related to IL15.



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Specifications

Quantity	3E6 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+2 ng/mL GM-CSF
Growth medium	RPMI 1640+10% FBS+1% P.S+2 ng/mL GM-CSF+3 μg/mL Blasticidin+0.25 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	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Recombinant Human GM-CSF	Novoprotein/C003
Puromycin	Genomeditech/GM-040401
Blasticidin	Genomeditech/GM-040404
Recombinant Human IL-15	Sino Biological/10360-H07E
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503
ONE-GloTM Luciferase Assay System	Promega/E6120

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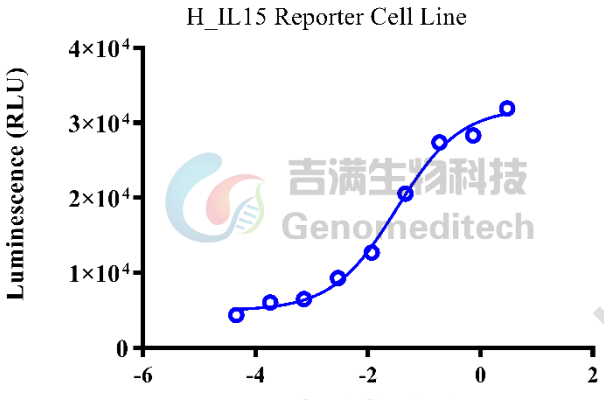
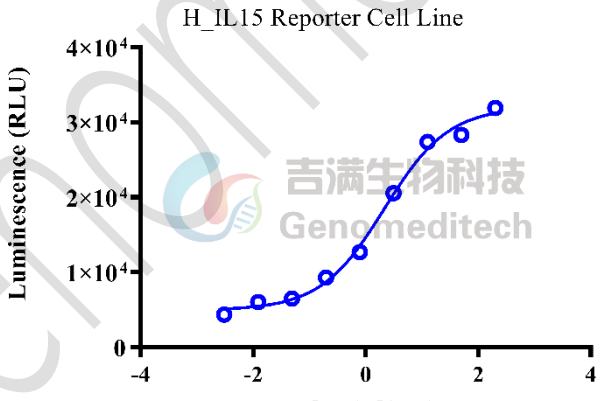
Figures



	H_IL15 Reporter Cell Line
EC50	0.03212

Figure 1 | Response to Human IL-15 protein. H_IL15 Reporter Cell Line (Cat. GM-C25386) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human IL-15 Protein (SinoBiological/10360-H07E) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 16 hours. The firefly luciferase activity was measured using the ONE-GloTM Luciferase Assay System (Promega/E6120). The maximum induction fold was approximately [10.3]. Data are shown by drug mass concentration.



	H_IL15 Reporter Cell Line
EC50	2.156

Figure 2 | Response to Human IL-15 protein. H_IL15 Reporter Cell Line (Cat. GM-C25386) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human IL-15 Protein (SinoBiological/10360-H07E) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 16 hours. The firefly luciferase activity was measured using the ONE-GloTM Luciferase Assay System (Promega/E6120). The maximum induction fold was approximately [10.3]. Data are shown by drug molar concentration.

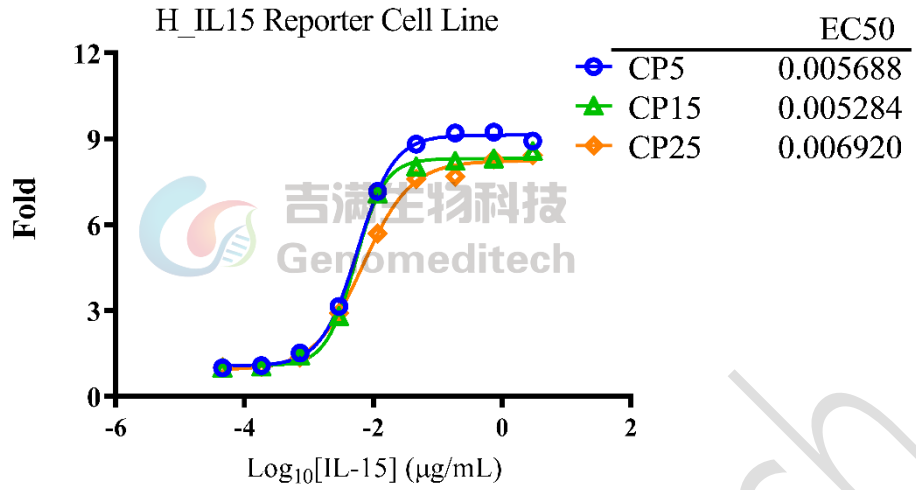


Figure 3 | The passage stability of response to Human IL-15 protein. The passage 5, 15 and 25 of H_IL15 Reporter Cell Line (Cat. GM-C25386) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human IL-15(SinoBiological/10360-H07E) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 16 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). Data are shown by drug mass concentration.

Cell Recovery

Recovery Medium: RPMI 1640+10% FBS+1% P.S+2 ng/mL GM-CSF

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 the cell pellet using the recommended complete medium and adjust the viable cell density to 4-6E5 cells/mL. Then dispense the suspension into an appropriate culture flask and initially place the flask in an upright position after thawing.

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.

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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 3E6 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+2 ng/mL GM-CSF+3 μg/mL Blasticidin+0.25 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.

a) This cell is a human erythroid leukemia cell, lymphoblast, growing in suspension.

b) In the suspension, they appear as large, single, round cells. Cells shed a large accumulation of cytoplasmic granules in the culture, which should not be confused with bacteria!

c) When the cell density reaches 1-1.2E6 cells/mL, perform a 1:2 to 1:3 split, ensuring subculturing every other day. It is essential to perform a full-volume centrifugation and medium replacement during passaging. Do not let the density exceed 1.2E6 cells/mL. It is recommended to use T-25 flasks for subculturing, and you can control the cell density for subculturing by counting.

Subcultivation Ratio: Maintain cultures at a cell concentraion between 4E5 and 6E5 viable cells/mL.

Medium Renewal: Every other day

Notes

a) To minimize the presence of cytoplasmic granules, it is essential to passage the cells every other day when the cell density reaches 1-1.2E6 cells/mL. During passaging, perform a complete centrifugation and replace the culture medium to ensure appropriate cell density and cytokine concentration. Failure to do so may promote the growth of factor-independent subclones.

Related Products

IL-15	
Cynomolgus_CD122 HEK-293 Cell Line	H_CD122 CHO-K1 Cell Line
H_CD122 HEK-293 Cell Line	H_CD215(IL15RA) HEK-293 Cell Line
IL-2	
H_CD122 CD132 Reporter Cell Line	H_CD25 CD122 CD132 Reporter Cell Line
H_IL2 Reporter Cell Line	H_IL2 Reporter DDX35TM Cell Line
Cynomolgus_CD25 HEK-293 Cell Line	H_CD25 CHO-K1 Cell Line
H_CD25 HEK-293 Cell Line	

Anti-CD122 hIgG1 Antibody(HuABC-2)	Anti-CD132(IL2RG) hIgG4 Antibody(REGN7257)
Anti-CD25 hIgG1 Antibody(Basiliximab)	

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