

Product Sheet

H_IL-5RA TF-1 Cell Line

Catalog number: GM-C46352

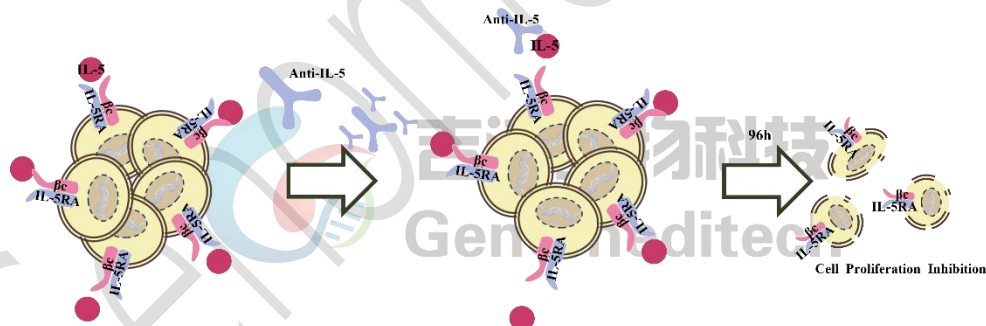
Version 3.3.1.26.910

IL-5 is a 115-aa (human) / 133-aa (mouse) Th2 cytokine of the hematopoietic family. Unlike IL-3 and GM-CSF, it is an active homodimer. The IL-5 receptor (IL-5R), a type I cytokine receptor, is a heterodimer: the α subunit binds IL-5 (confers specificity), while the β subunit mediates signaling without binding IL-5.

IL-5 is linked to allergic diseases (e.g., rhinitis, asthma), where eosinophils play a key pathogenic role. Mepolizumab, a humanized mAb targeting IL-5, blocks IL-5/IL-5R α binding via steric hindrance, inhibiting IL-5R α / β c complex formation and JAK2-STAT5 signaling. It is used for severe eosinophilic asthma, EGPA, HES, and CRSwNP.

IL-5RA (CD125) specifically binds IL-5 but lacks an independent signaling domain; it must assemble with the β c subunit (CD131) to initiate downstream signaling. Wild-type TF-1 cells express endogenous β c but lack IL-5RA, thus failing to proliferate in response to IL-5.

H_IL-5RA TF-1 Cell Line is a clonal stable BaF3 cell line constructed using lentiviral technology, constitutive expression of the Human IL-5RA gene. Can be used for the development and validation of related drugs.



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+2 ng/mL GM-CSF+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	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Recombinant Human GM-CSF	Novoprotein/C003
Puromycin	Genomeditech/ GM-040401
Human IL-5 Protein; His Tag	Genomeditech/ GM-88539RP
Anti-IL-5R hIgG1 Antibody(Benralizumab)	Genomeditech/ GM-46851AB
GMTiter™ Luminescent Cell Viability Assay	Genomeditech/ GM-040504

Figures

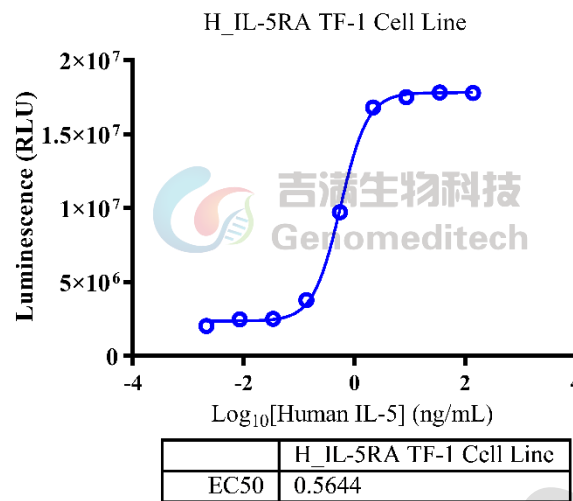


Figure 1 | Cell proliferation assay. The H_IL-5RA TF-1 Cell Line (Cat. GM-C46352) at a density of 5000 cells/well (96-well format) was treated with serial dilutions of Human IL-5 Protein; His Tag (Cat. [GM-88539RP](#)) in assay buffer (RPMI 1640+10% FBS+1% P.S) for 96 hours. The firefly luciferase activity was measured the GMTiter™ Luminescent Cell Viability Assay (Cat. [GM-040504](#)).

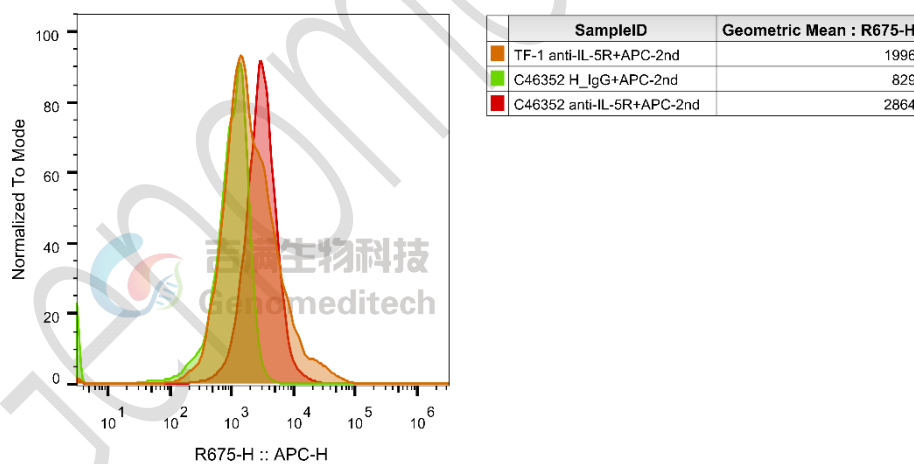


Figure 2 | H_IL-5RA TF-1 Cell Line (Cat. GM-C46352) was determined by flow cytometry using Anti-IL-5R hIgG1 Antibody(Benralizumab)(Cat. [GM-46851AB](#)).

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 $176 \times g$ for 5 minutes. Discard supernatant.
- Resuspend the cell pellet using the recommended complete medium and adjust the viable cell density to $4\text{--}6 \times 10^5$ cells/mL. Then dispense the suspension into an appropriate culture flask and initially place the flask in an upright position after thawing.
- 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

- 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 3×10^6 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+2 ng/mL GM-CSF+0.25 $\mu\text{g/mL}$ 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.

- This cell is a human erythroid leukemia cell, lymphoblast, growing in suspension.
- 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!
- When the cell density reaches $1\text{--}1.2 \times 10^6$ 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 1.2×10^6 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 4×10^5 and 6×10^5 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-4/IL-13	
IL-4 Reporter Cell Line	IL-4/IL-13 Reporter 293 Cell Line
IL-4/IL-13 Reporter 293 DDX35TM Cell Line	Cynomolgus_IL4R CHO-K1 Cell Line
H_IL4R CHO-K1 Cell Line	H_IL4R CHO-K1 Cell Line (Low Expression)
H_IL4R HEK-293 Cell Line	Mouse_IL4R CHO-K1 Cell Line
Anti-IL13 hIgG4 Reference Antibody (Lebribo)	Anti-IL-4R hIgG1 Antibody(12B5)
Anti-IL4R hIgG4 Antibody(Dupilumab)	Anti-IL4R hIgG4 Reference Antibody (Dupbio)
Anti-IL-4R×IL31 hIgG4 Reference Antibody (PRO2198)	Anti-Mouse IL-4RA mIgG1 Antibody
Biotinylated Human IL-4R alpha Protein; Avi-His Tag	Cynomolgus IL-13 Protein; His Tag
Cynomolgus IL-13RA1 Protein; His Tag	Cynomolgus IL-4 Protein; His Tag
Cynomolgus IL-4R alpha Protein; His Tag	Human IL-13 Protein; His Tag
Human IL-13RA1 Protein; hFc Tag	Human IL-13RA1 Protein; His Tag
Human IL-4 Protein; His Tag	Human IL-4R alpha Protein; hFc Tag
Human IL-4R alpha Protein; His Tag	Human IL-4R alpha Protein; mFc Tag
Mouse IL-13 Protein; His Tag	Mouse IL-4R alpha Protein; His Tag
Rat IL-4R alpha Protein; His Tag	
TSLP:TSLPR	
H_TSLP Reporter 293 Cell Line	H_TSLP Reporter Cell Line
H_TSLPR CHO-K1 Cell Line	H_TSLPR IL7RA BaF3 Cell Line
Anti-H_TSLPR hIgG1 Antibody	Anti-TSLP hIgG2 Antibody(Tezepelumab)
Anti-TSLP hIgG2 Reference Antibody (Tezbio)	
Biotinylated Human TSLP Protein; His-Avi Tag	Cynomolgus TSLP Protein; His Tag
Cynomolgus TSLPR Protein; His Tag	Human TSLP Protein; hFc Tag
Human TSLP Protein; His Tag	Human TSLPR Protein; hFc Tag
Human TSLPR Protein; His Tag	
IL-5	
H_IL-5 Reporter 293 Cell Line	Cynomolgus_IL-5RA HEK-293 Cell Line
H_IL-5RA CHO-K1 Cell Line	H_IL-5RA HEK-293 Cell Line
Anti-IL5 hIgG4 Antibody(Reslizumab)	Anti-IL-5R hIgG1 Antibody(Benralizumab)
Cynomolgus IL-5 Protein; hFc Tag	Cynomolgus IL-5 Protein; His Tag
Human IL-5 Protein; hFc Tag	Human IL-5 Protein; His Tag

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