

Product Sheet

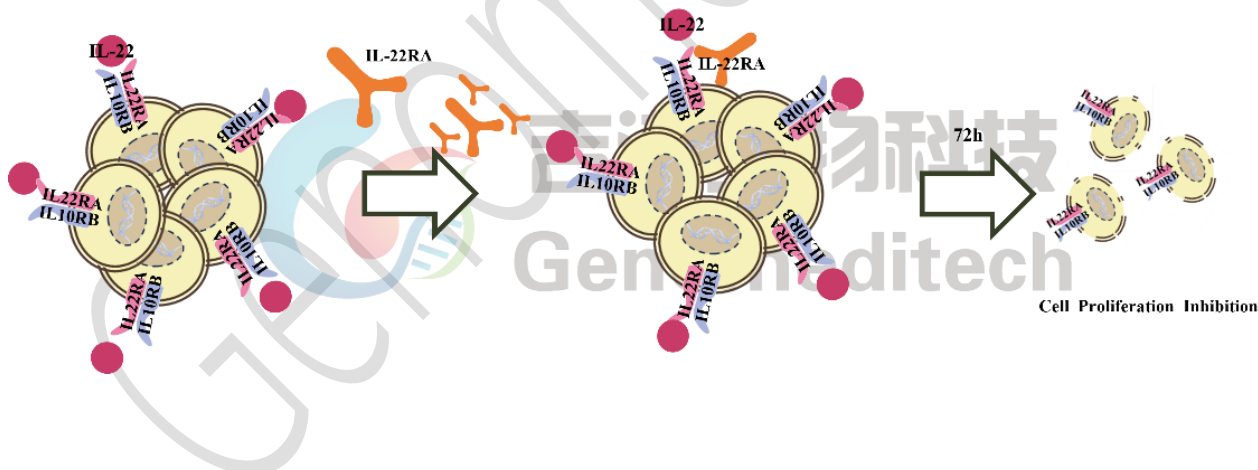
H_IL22RA IL10RB BAF3 Cell Line

Catalog number: GM-C42749

Version 3.3.1.260324

IL22RA (IL-22 receptor α chain) and IL10RB (IL-10 receptor β chain), both members of the IL-10 receptor family, form a heterodimeric complex that transmits IL-22 signals. IL22RA, the specific α chain, is primarily expressed in epithelial cells (e.g., gut, skin) and certain immune cells, while IL10RB, a shared β chain, mediates multiple cytokines (e.g., IL-22, IL-26). This complex activates JAK-STAT (predominantly STAT3), MAPK/ERK, and PI3K-AKT pathways, regulating cell proliferation, survival, anti-inflammatory cytokine secretion, and tissue repair. IL-22, secreted by Th17/Th22 cells, plays a dual role in mucosal immunity and tissue repair. Dysregulation of this axis contributes to inflammatory bowel disease (IBD), psoriasis, and colorectal cancer. Therapeutic strategies targeting IL-22 or its receptors (e.g., monoclonal antibodies, neutralizing agents) aim to suppress aberrant inflammation, restore barrier function, and reduce reliance on corticosteroids.

Native BaF3 cells are a mouse pre-B lymphocyte cell line whose survival depends on mouse IL-3. The H_IL22RA IL10RB BaF3 Cell Line is a clonal, stable BaF3 cell line constructed using lentiviral technology, which constitutively expresses the human IL22RA and human IL10RB genes. In addition to their original dependence on mouse IL-3, these cells can also proliferate in response to human IL-22. This "survival dependence" characteristic makes this cell line a highly sensitive and specific tool for detecting IL-22 activity and its neutralizing inhibitors.



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+100 ng/mL H_IL22
Growth medium	RPMI 1640+10% FBS+1% P.S+100 ng/mL H_IL22+100 µg/mL Hygromycin+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
Hygromycin	Genomeditech/ GM-040403
Puromycin	Genomeditech/ GM-040401
Human IL-22 Protein; His Tag	Genomeditech/ GM-88080RP
Anti-IL-22RA hIgG1 Antibody (280.346.TSY)	Genomeditech/ GM-88095AB
PE anti-human CD210b (IL-10RB) Antibody	Biolegend/396803
GMTiter™ Luminescent Cell Viability Assay	Genomeditech/ GM-040504

Figures

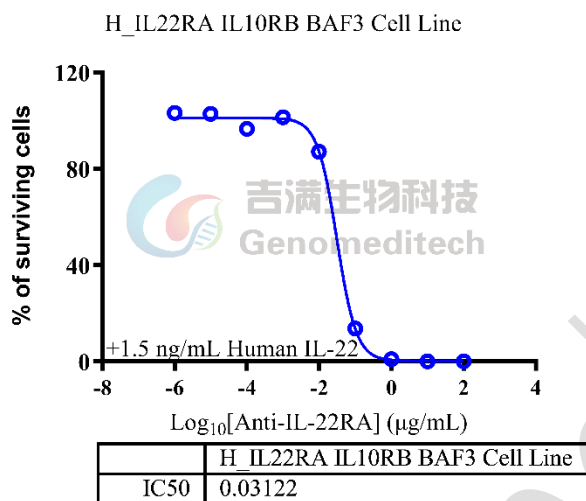


Figure 1 | Cell proliferation assay. The H_IL22RA IL10RB BAF3 Cell Line (Cat. GM-C42749) at a concentration of 1E3 cells/well (96-well format) was treated with serial dilutions of Anti-IL-22RA hIgG1 Antibody (280.346.TSY)(Cat. [GM-88095AB](#)) in assay buffer (RPMI 1640+10% FBS+1% P.S) for 72 hours. The firefly luciferase activity was measured the GMTiter™ Luminescent Cell Viability Assay (Cat. [GM-040504](#)).

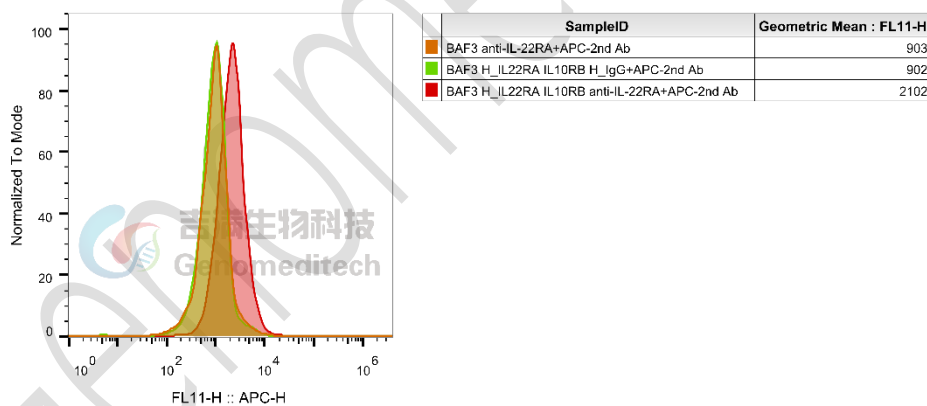


Figure 2 | H_IL22RA IL10RB BAF3 Cell Line (Cat. GM-C42749) was determined by flow cytometry using Anti-IL-22RA hIgG1 Antibody (280.346.TSY) (Cat. [GM-88095AB](#)).

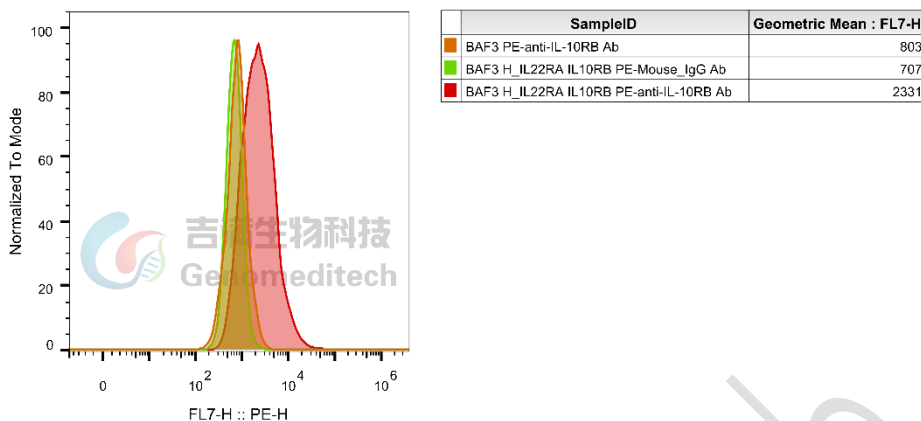


Figure 3 | H_IL22RA IL10RB BAF3 Cell Line (Cat. GM-C42749) was determined by flow cytometry using PE anti-human CD210b (IL-10RB) Antibody (Biolegend/396803).

Cell Recovery

Recovery Medium: RPMI 1640+10% FBS+1% P.S+100 ng/mL H_IL22

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 vials 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+100 ng/mL H_IL22+100 µg/mL Hygromycin+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. 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 - 1.2E6 cells/mL, subculture the cells. Do not allow the cell density to exceed 1.4E6 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 concentraion 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.

Related Products

IL-22	
H_IL22 Reporter 293 Cell Line	Cynomolgus_IL22R HEK-293 Cell Line
H_IL22R CHO-K1 Cell Line	H_IL22R HEK-293 Cell Line
Mouse_IL22R HEK-293 Cell Line	Cynomolgus_IL22 Reporter 293 Cell Line
H_IL20 IL22 IL24 Reporter 293 Cell Line	
Anti-H_IL-22 hIgG1 Antibody(Fezakinumab)	Anti-H_IL-22R1 hIgG1 Antibody(ARGX-112)
Anti-IL-22RA hIgG1 Antibody (280.346.TSY)	Anti-IL-22RA hIgG1 Reference Antibody (Temtobio)
Biotinylated Human IL-22 Protein; His-Avi Tag	Human IL-22 Protein; His Tag
Human IL-22BP Protein; hFc Tag	Mouse IL-22RA1 Protein; His Tag

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