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Product Sheet

Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line

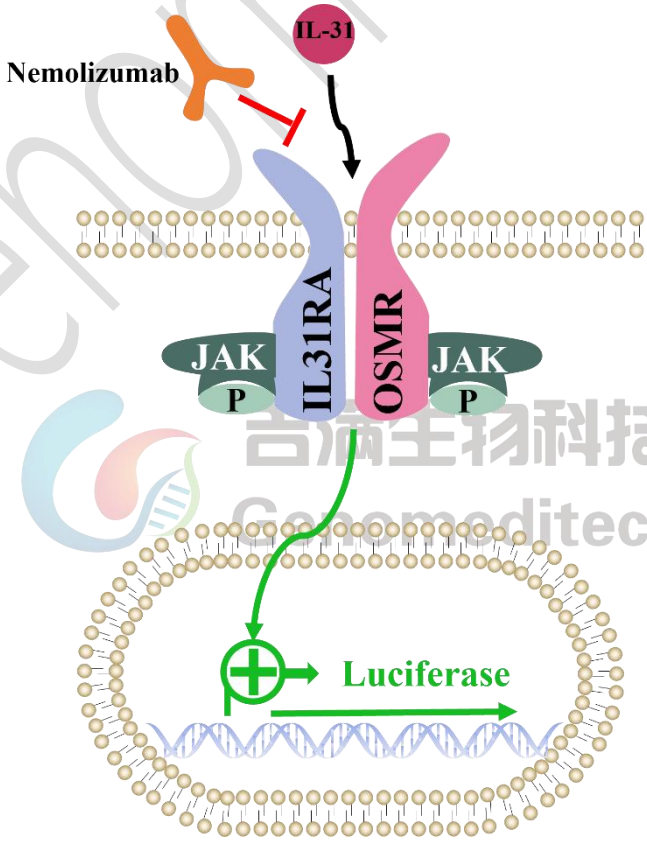
Catalog number: GM-C38785

Version 3.3.1.250109

Interleukin-31 (IL-31) is a novel cytokine belonging to the IL-6 cytokine family, primarily secreted by activated CD4+ T lymphocytes, especially Th2 cells, mast cells, macrophages, and dendritic cells. IL-31 regulates skin cell-mediated immunity by sensing itch in the nervous system, increases airway inflammation to modulate lung immunity, and influences gut immunity through microbial defense.

IL-31 signals through a heterodimer complex formed with IL31RA and OSMR. Its signaling pathway is closely associated with chronic itchy skin diseases such as atopic dermatitis. Monoclonal antibody drugs targeting IL-31 or its receptors can effectively reduce itching and sleep disturbances, improve skin lesions, and minimize the use of topical steroids.

Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line is a clonal stable Baf3 cell line constructed using lentiviral technology, constitutive expression of the Cynomolgus IL31RA and OSMR, along with signal-dependent expression of a luciferase reporter gene. When IL-31 binds to IL-31RA and OSMR heterodimer, it activates downstream signaling pathways, leading to the expression of luciferase. Blockade antibodies can inhibit this signal transmission.
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 IL-31.



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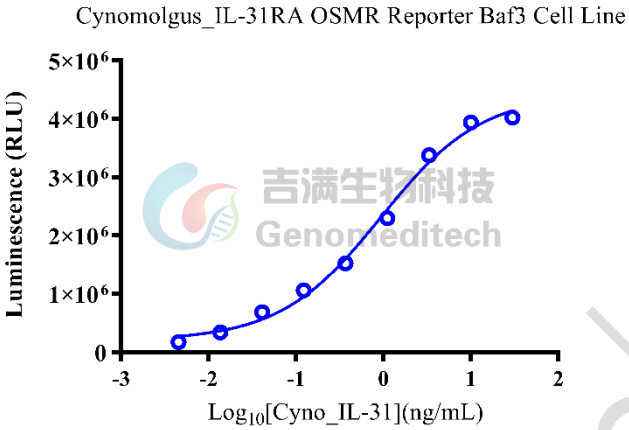
Specifications

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+8 ng/mL M_IL-3
Growth medium	RPMI 1640+10% FBS+1% P.S+8 ng/mL M_IL-3+5 μg/mL Blasticidin+50 μg/mL G418+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

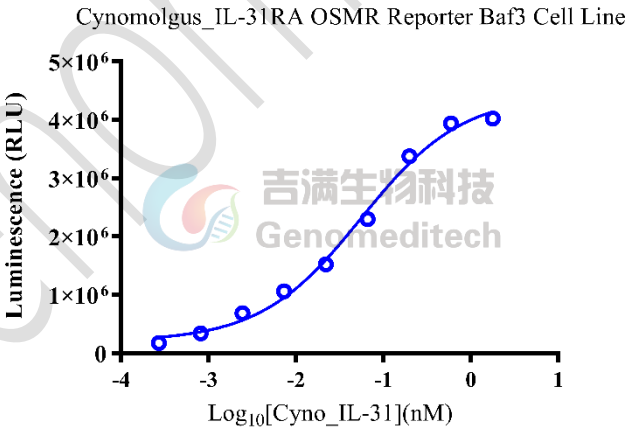
Reagent	Manufacturer/Catalogue No.
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Recombinant Mouse IL-3 (C-6His)	Novoprotein/CP39
Blasticidin	Genomeditech/GM-040404
G418	Genomeditech/GM-040402
Puromycin	Genomeditech/GM-040401
Recombinant Cynomolgus IL31 Protein；His Tag	Sino Biological/90895-C08H
Anti-IL31RA hIgG2 Antibody(Nemolizumab)	Genomeditech/GM-50871AB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

Figures



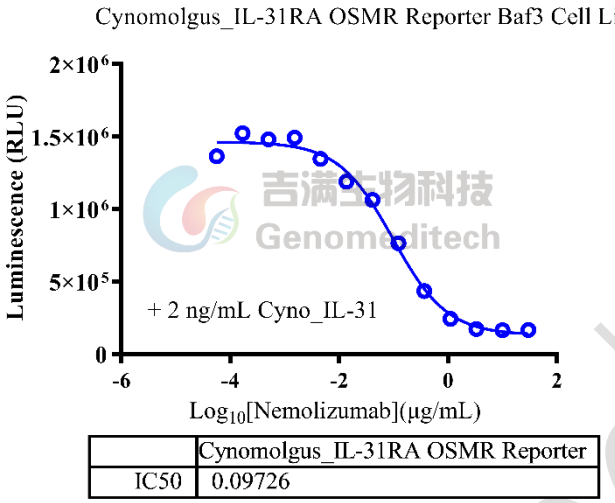
	Cynomolgus_IL-31RA OSMR Reporter
EC50	0.9386

Figure 1 | Response to Recombinant Cynomolgus IL31 Protein. The Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line (Cat. GM-C38785) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Cynomolgus IL31 Protein (Sino Biological/90895-C08H) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 6 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [35.0]. Data are shown by drug mass concentration.



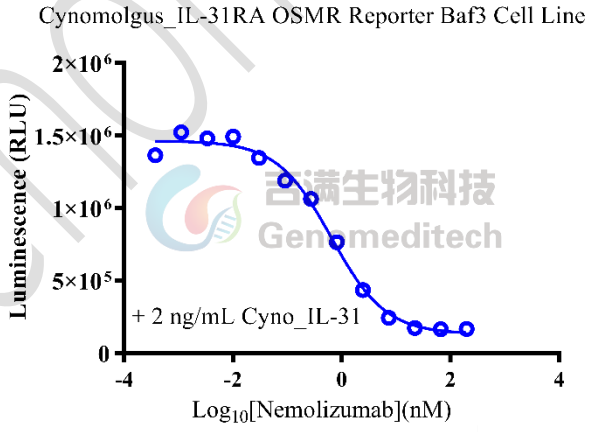
	Cynomolgus_IL-31RA OSMR Reporter
EC50	0.05587

Figure 2 | Response to Recombinant Cynomolgus IL31 Protein. The Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line (Cat. GM-C38785) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Cynomolgus IL31 Protein (Sino Biological/90895-C08H) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 6 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [35.0]. Data are shown by drug molar concentration.



	Cynomolgus_IL-31RA OSMR Reporter
IC50	0.09726

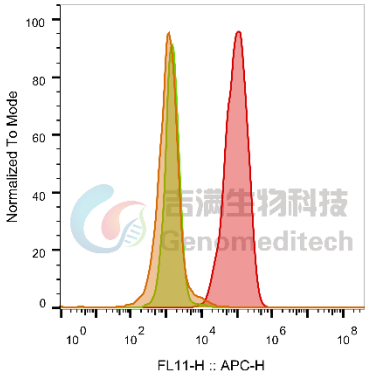
Figure 3 | Response to Anti-IL31RA hIgG2 Antibody(Nemolizumab). Serial dilutions of the Anti-IL31RA hIgG2 Antibody(Nemolizumab) (Cat. GM-50871AB) was incubated with 1E5 cells/well of Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line (Cat. GM-C38785) in a 96-well plate for 1 hour in assay buffer (RPMI 1640+1% FBS+1% P.S). Subsequently, the Recombinant Cynomolgus IL31 Protein (Sino Biological/90895-C08H) at a concentration of 0.2 ng/well was added, and the coculture proceeded for an additional 6 hours. Firefly luciferase activity is then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated maximum blocking folds of approximately [7.8]. Data are shown by drug mass concentration.



	Cynomolgus_IL-31RA OSMR Reporter
IC50	0.6484

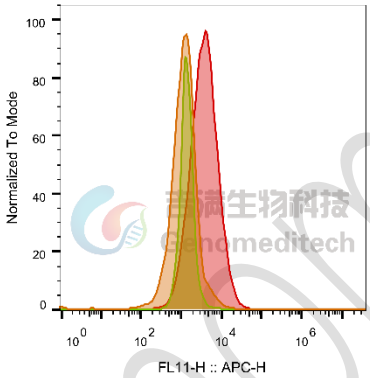
Figure 4 | Response to Anti-IL31RA hIgG2 Antibody(Nemolizumab). Serial dilutions of the Anti-IL31RA hIgG2 Antibody(Nemolizumab) (Cat. GM-50871AB) was incubated with 1E5 cells/well of Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line (Cat. GM-C38785) in a 96-well plate for 1 hour in assay buffer (RPMI 1640+1% FBS+1% P.S). Subsequently, the Recombinant Cynomolgus IL31 Protein (Sino Biological/90895-C08H) at a concentration of 0.2 ng/well was added, and the coculture proceeded for an additional 6 hours. Firefly luciferase activity is then

measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated maximum blocking folds of approximately [7.8]. Data are shown by drug molar concentration.



SampleID	Geometric Mean : FL11-H
BaF3 anti-IL31RA+APC-2nd Ab	1148
Cyno_IL31RA OSMR Reporter BaF3 H_IgG+APC-2nd Ab	1517
Cyno_IL31RA OSMR Reporter BaF3 anti-IL31RA+APC-2nd Ab	93056

Figure 5 | Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line (Cat. GM-C38785) was determined by flow cytometry using Anti-IL31RA hIgG2 Antibody(Nemolizumab) (Cat. GM-50871AB).



SampleID	Geometric Mean : FL11-H
BaF3 anti-OSMR+APC-2nd Ab	1150
Cyno_IL31RA OSMR Reporter BaF3 H_IgG+APC-2nd Ab	1413
Cyno_IL31RA OSMR Reporter BaF3 anti-OSMR+APC-2nd Ab	3710

Figure 6 | Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line (Cat. GM-C38785) was determined by flow cytometry using Anti-OSMR hIgG4 Antibody(Vixarelimab) (Cat. GM-50874AB).

Cell Recovery

Recovery Medium: RPMI 1640+10% FBS+1% P.S+8 ng/mL M_IL-3

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.

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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 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+8 ng/mL M_IL-3+5 μg/mL Blasticidin+50 μg/mL G418+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.

a) 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.

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

OX40	
H_OX40 Reporter Cell Line	Cynomolgus_OX40L CHO-K1 Cell Line
H_OX40 CHO-K1 Cell Line	H_OX40L CHO-K1 Cell Line
H_OX40L HEK-293 Cell Line	
Anti-H_OX40 hIgG2 Antibody(Ivuxolimab)	Anti-OX40L hIgG1 Reference Antibody(Oxebio)
Anti-OX40L hIgG4 Antibody(Amlitelimab)	Anti-OX40L hIgG4 Reference Antibody(Amlbio)
Biotinylated Human OX40L Protein; His-Avi Tag	Cynomolgus OX40 Protein; His Tag
Cynomolgus OX40L Protein; His Tag	Cynomolgus OX40L Protein; mFc Tag
Human OX40 Protein; His Tag	Human OX40L Protein; His Tag
Human OX40L Protein; mFc Tag	
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	
Anti-IL-4R hIgG1 Antibody(12B5)	Anti-IL4R hIgG4 Antibody(Dupilumab)
Anti-IL4R hIgG4 Reference Antibody (Dupbio)	
Human IL-4R alpha Protein; mFc Tag	
IL-31	
H_IL-31 Reporter Cell Line	Cynomolgus_IL31RA CHO-K1 Cell Line
	H_IL31RA CHO-K1 Cell Line
H_IL31RA HEK-293 Cell Line	H_IL-31RA OSMR Baf3 Cell Line
Anti-IL31 hIgG1 Antibody(mAb33)	Anti-IL31RA hIgG1 Antibody(NA633)
Anti-IL31RA hIgG2 Antibody(Nemolizumab)	Anti-OSMR hIgG4 Antibody(Vixarelimab)
MRGPRX2	
H_MRGPRX2 Reporter Cell Line	Cynomolgus_MRGPRX2 CHO-K1 Cell Line
Cynomolgus_MRGPRX2 HEK-293 Cell Line	H_MRGPRX2 CHO-K1 Cell Line
H_MRGPRX2 HEK-293 Cell Line	

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