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Product Sheet

Cynomolgus_PRL(prolactin) Reporter 293 Cell Line

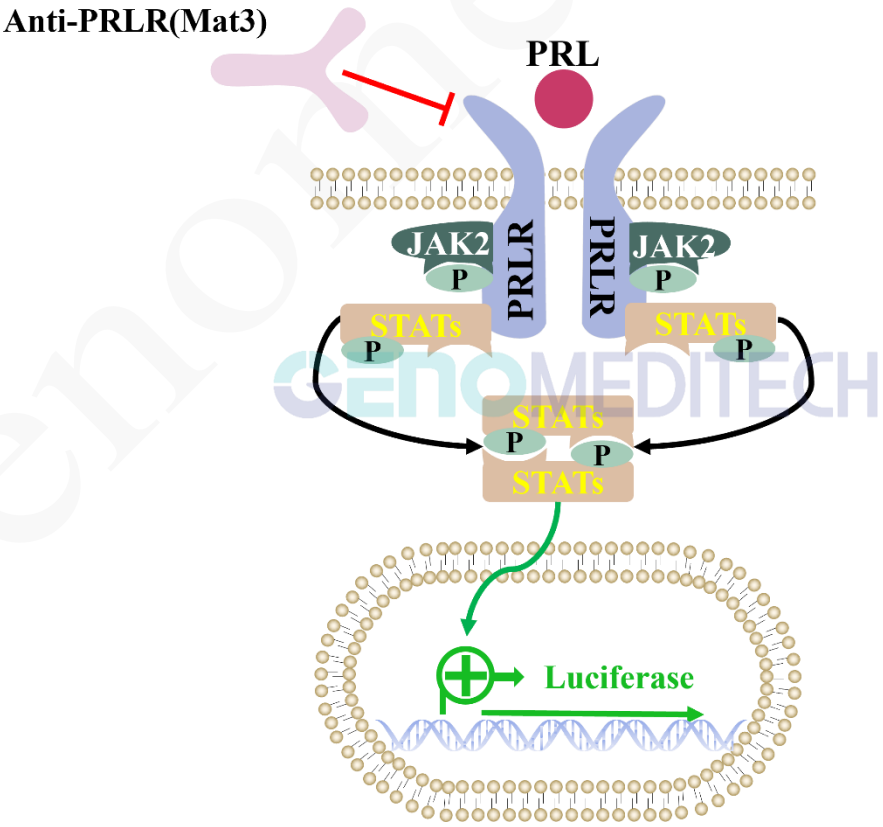
Catalog number: GM-C47095

Version 4.0.26.1026

PRL (Prolactin) is a hormone from the anterior pituitary that promotes mammary gland development and milk secretion. It also regulates reproduction, immunity, and metabolism, with secretion influenced by factors like TRH and dopamine.

The PRL signaling pathway functions through the PRL receptor (PRLR), which activates JAK2 and subsequently downstream signals, leading to target gene expression. This pathway is crucial for mammary cell proliferation and differentiation and impacts other tissues' functions. Abnormalities in this pathway may be linked to diseases like breast cancer and infertility.

Cynomolgus_PRL(prolactin) Reporter 293 Cell Line is a clonal stable cell line constructed using lentiviral technology, constitutive expression of the PRLR gene, along with signal-dependent expression of a luciferase reporter gene. When PRL binds to PRLR, 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 PRL.



For research use only!

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	DMEM+10% FBS+1% P.S
Growth medium	DMEM+10% FBS+1% P.S+4 μg/mL Blasticidin+0.75 μg/mL Puromycin
Note	None
Freezing Medium	90% FBS+10% DMSO
Growth properties	Adherent
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.
DMEM	Gibco/C11995500BT
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Puromycin	Genomeditech/GM-040401
96 well round cell culture plate	PakGent/CL-PT096
96-well White Opaque Plate	Thermo/236108
96-well U-bottom Plate	Saining/1014010
Recombinant Human Prolactin Protein	Sino Biological/10275-H08B
BAY 1158061 (anti-PRLR)	Aladdin/Ab179387
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513
Countess 3 Automated Cell Counter	ThermoFisher/A49891
SpectraMax® L Microplate Luminometer	Moleculardevices/SpectraMax L

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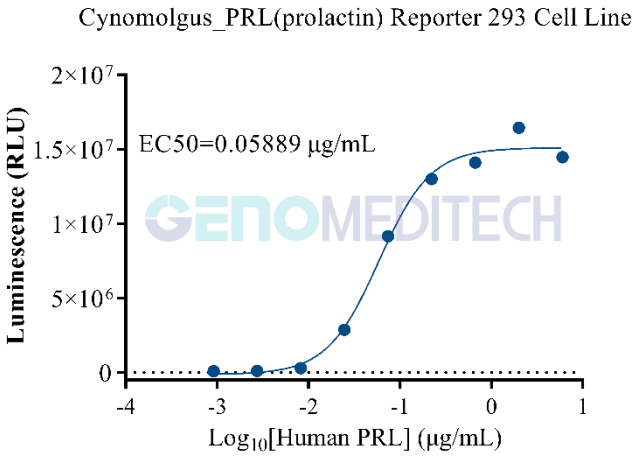
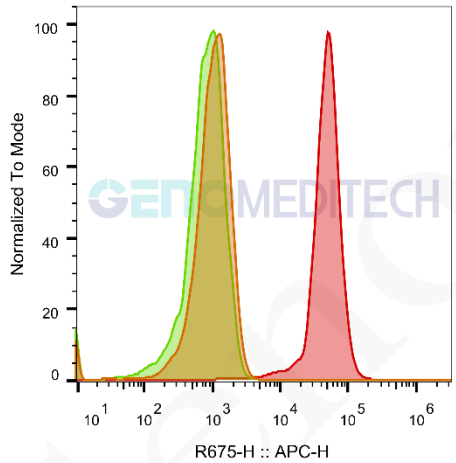
Data

Signaling Pathway



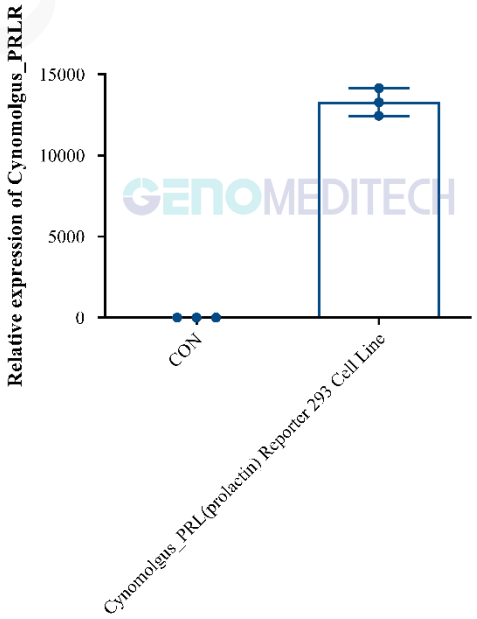
Response to human PRL protein. The Cynomolgus_PRL(prolactin) Reporter 293 Cell Line (Cat. GM-C47095) at a density of 1.5E4 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human Prolactin Protein (His Tag) (Sinobiological/10275-H08B) in assay buffer (DMEM + 1% FBS + 1% P.S) for 16 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [138.6]. Data are shown by drug mass concentration.

Expression



SampleID	Geometric Mean : R675-H
HEK-293 anti-PRLR+APC-2nd Ab	943
Cyno_PRL Reporter 293 H_IgG+APC-2nd Ab	733
Cyno_PRL Reporter 293 anti-PRLR+APC-2nd Ab	45234

Cynomolgus_PRL(prolactin) Reporter 293 Cell Line (Cat. GM-C47095) was determined by flow cytometry using BAY 1158061 (anti-PRLR) (Aladdin/Ab179387).



The mRNA expression levels of Cynomolgus_PRLR in the Cynomolgus_PRL(prolactin) Reporter 293 Cell Line (Cat. GM-C47095) were determined by RT-qPCR.

Cell Recovery

Recovery Medium: DMEM+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 recovery medium. And dispense into appropriate culture dishes.
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.

Cell passage

Growth medium: DMEM+10% FBS+1% P.S+4 μg/mL Blasticidin+0.75 μg/mL Puromycin

For the first 1 to 2 passages post-resuscitation, use the recovery medium. Once the cells have stabilized, switch to a growth medium.

a) Subculturing is necessary when the cell density reaches 80%. It is recommended to perform subculturing at a ratio of 1:3 to 1:4 every 2-3 days. Ensure that the density does not exceed 80%, as overcrowding can lead to reduced viability due to compression.
b) Remove and discard culture medium.
c) Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.
d) Add 1.0 mL of 0.25% (w/v) Trypsin-EDTA solution to dish and observe cells under an inverted microscope until cell layer is dispersed (usually within 30 to 60 seconds at 37°C).
e) Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal.
f) Add 2.0 mL of growth medium to mix well and aspirate cells by gently pipetting.
g) After centrifugation, resuspend the pellet and add appropriate aliquots of the cell suspension to new culture vessels.
h) Incubate cultures at 37°C.

Subcultivation Ratio: A subcultivation ratio of 1:3 - 1:4 is recommended

Medium Renewal: Every 2 to 3 days

Notes

a) Upon initial thawing, a higher number of dead cells is observed, which is a normal phenomenon. Significant improvement is seen after adaptation. Once the cells reach a stable state, the number of dead cells decreases after subculturing and the cell growth rate becomes stable.

b) Ensure that the cell density does not exceed 80%, as overcrowding may lead to reduced viability due to compression.

Related Products

PRL:PRLR	
H_PRL(prolactin) Reporter Cell Line	Mouse_PRL(prolactin) Reporter 293 Cell Line
Cynomolgus_PRLR CHO-K1 Cell Line	H_PRLR CHO-K1 Cell Line
Mouse_PRLR CHO-K1 Cell Line	Mouse_PRLR HEK-293 Cell Line
Anti-PRLR hIgG1 Antibody(Mat3)	
Human ProlactinR(PRLR) Protein; hFc Tag	Mouse ProlactinR(PRLR) Protein; His Tag

License Agreement

By purchasing and using this cell line product, the user voluntarily agrees to accept and abide by the following policies:

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