Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

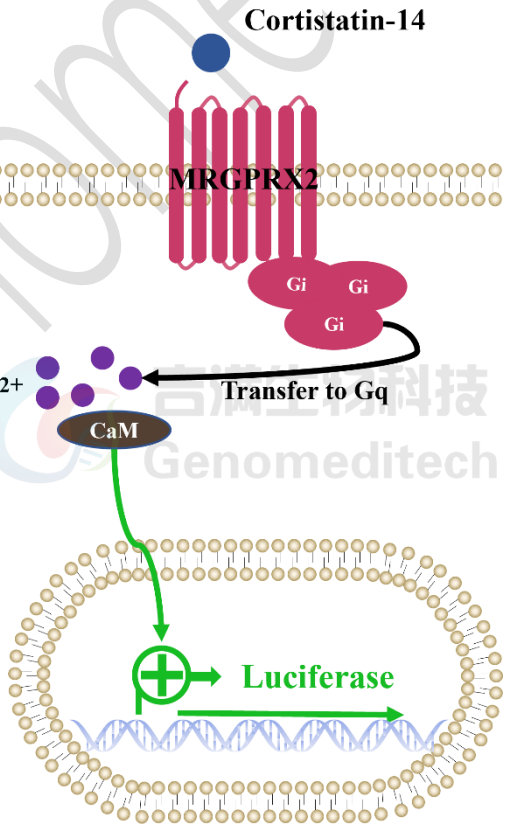
H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line

Catalog number: GM-C37885

Version 3.3.1.251219

MRGPRX2 (Mas-related G protein-coupled receptor member X2) is a G protein-coupled receptor (GPCR) primarily expressed in mast cells and certain neural tissues. The MRGPRX2 receptor is involved in various physiological and pathological processes, including pain transmission, immune responses, and inflammatory reactions. It can recognize and bind to a variety of ligands, including cyclic peptides and pro-inflammatory molecules. MRGPRX2 is associated with certain allergic diseases, such as chronic urticaria and anaphylactic shock, as its expression in mast cells can trigger the release of histamine and other inflammatory mediators. Additionally, this receptor is involved in some drug-induced allergic reactions, making it a potential target of medical interest in drug development and allergy research.

H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line is a clonal stable cell line constructed using lentiviral technology, constitutive expression of the MRGPRX2 gene, along with signal-dependent expression of a luciferase reporter gene. When Cortistatin-14 binds to the MRGPRX2, it activates the downstream signaling pathways, leading to the expression of luciferase. 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 MRGPRX2.



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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	F12K+10% FBS+1% P.S
Growth medium	F12K+10% FBS+1% P.S+4 μg/mL Blasticidin+200 μg/mL G418+4 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.
F12K	BOSTER/PYG0036
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
G418	Genomeditech/GM-040402
Puromycin	Genomeditech/GM-040401
Cortistatin-14	MCE/HY-P1932
APC anti-human MRGX2 Antibody	Biolegend/359006
MrgprX2 antagonist-1	MCE/HY-145191
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

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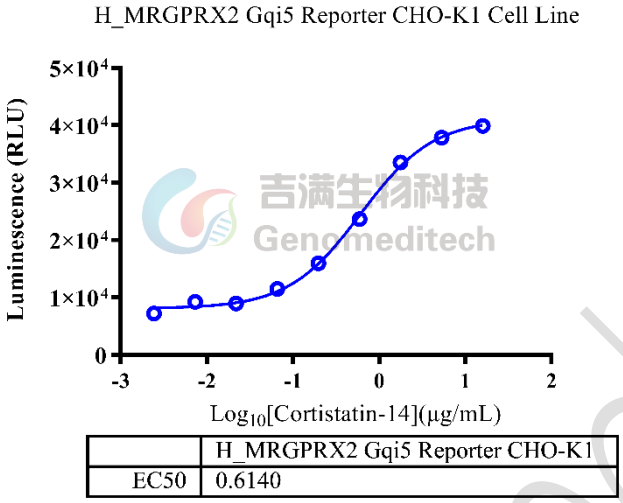
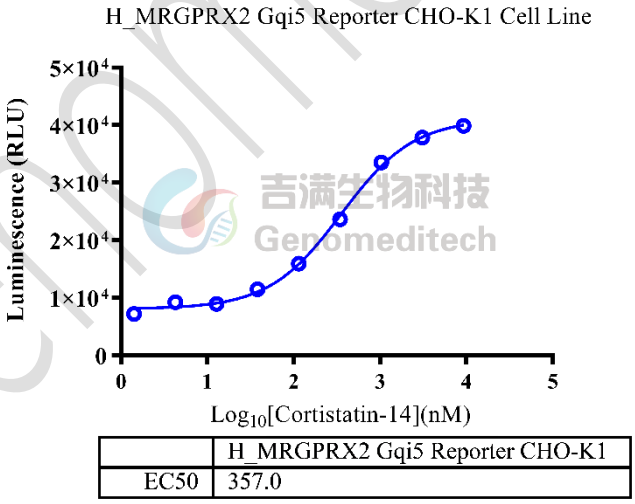
Figures



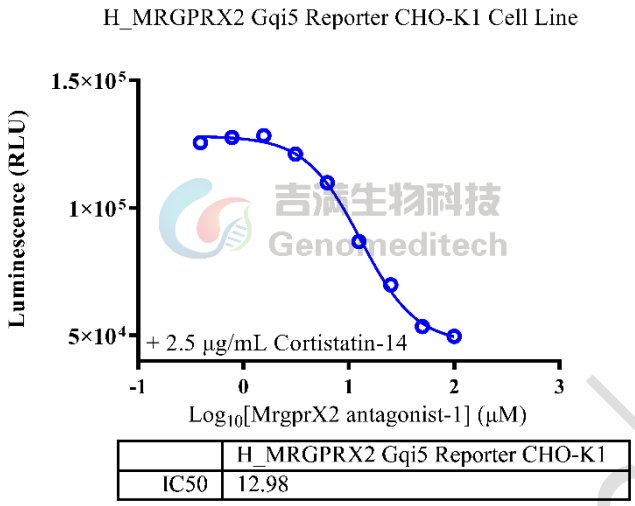
	H_MRGPRX2 Gqi5 Reporter CHO-K1
EC50	0.6140

Figure 1 | Response to Cortistatin-14. The H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line (Cat. GM-C37885) at a concentration of 1E4 cells/well (96-well format) was stimulated with serial dilutions of Cortistatin-14 (MCE/HY-P1932) in assay buffer (F12K+1% FBS+1% P.S) for 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [5.7]. Data are shown by drug mass concentration.



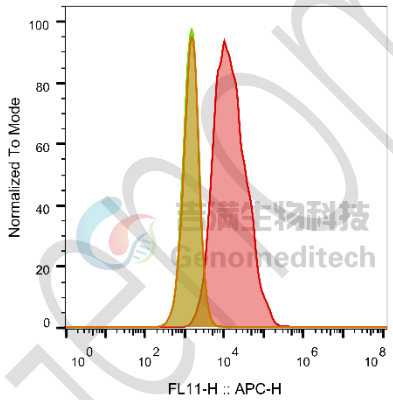
	H_MRGPRX2 Gqi5 Reporter CHO-K1
EC50	357.0

Figure 2 | Response to Cortistatin-14. The H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line (Cat. GM-C37885) at a concentration of 1E4 cells/well (96-well format) was stimulated with serial dilutions of Cortistatin-14 (MCE/HY-P1932) in assay buffer (F12K+1% FBS+1% P.S) for 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [5.7]. Data are shown by drug molar concentration.



	H_MRGPRX2 Gqi5 Reporter CHO-K1
IC50	12.98

Figure 3 | Response to MrgprX2 antagonist-1. Serial dilutions of the MrgprX2 antagonist-1(MCE/HY-145191) was incubated with 1E4 cells/well of the H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line (Cat. GM-C37885) in a 96-well plate for 1 hour in assay buffer (F12K+1% FBS+1% P.S). Subsequently, the Cortistatin-14 (MCE/HY-P1932) at a concentration of 0.25 μg/well was added, and the coculture proceeded for an additional 6 hours. Firefly luciferase activity was then measured using the Luciferase Reporter Assay Kit (Genomeditech). The results indicated maximum blocking folds of approximately [2.6]. Data are shown by drug molar concentration.



SampleID	Geometric Mean : FL11-H
Null anti-MRGPRX2+APC-2nd Ab	1495
H_MRGPRX2 Reporter H_IgG+APC-2nd Ab	1467
H_MRGPRX2 Reporter anti-MRGPRX2+APC-2nd Ab	14473

Figure 4 | H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line (Cat. GM-C37885) was determined by flow cytometry using APC anti-human MRGX2 Antibody (Biolegend/359005).

Cell Recovery

Recovery Medium: F12K+10% FBS+1% P.S

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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: F12K+10% FBS+1% P.S+4 μg/mL Blasticidin+200 μg/mL G418+4 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) Remove and discard culture medium.
b) Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.
c) 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 2 to 3 minutes at 37°C).
d) 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.
e) Add 2.0 mL of growth medium to mix well and aspirate cells by gently pipetting.
f) After centrifugation, resuspend the pellet and add appropriate aliquots of the cell suspension to new culture vessels.
g) Incubate cultures at 37°C.

Subcultivation Ratio: A subcultivation ratio of 1:4 - 1:5 is recommended

Medium Renewal: Every 2 to 3 days

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Notes

a) After the stabilization of the cell condition, there will be fewer dead cells post-passage, the cell growth rate will tend to stabilize, cell morphology will become uniform, and the cells will appear robust.

Related Products

OX40:OX40L	
H_OX40 Reporter Cell Line	H_OX40 Reporter DDX35TM 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	H_IL4R HEK-293 Cell Line
Mouse_IL4R CHO-K1 Cell Line	
Anti-IL-4R hIgG1 Antibody(12B5)	Anti-IL4R hIgG4 Antibody(Dupilumab)
Anti-IL4R hIgG4 Reference Antibody (Dupbio)	
Biotinylated Human IL-4R alpha Protein; Avi-His Tag	Cynomolgus IL-13 Protein; His Tag
Cynomolgus IL-4R alpha Protein; His Tag	Human IL-13 Protein; His 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
IL-31	
Cynomolgus_IL-31RA OSMR Reporter Baf3 Cell Line	H_IL-31 Reporter Cell Line
H_IL-31 Reporter DDX35TM 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)
Cynomolgus IL-31 Protein; His Tag	Human IL-31 Protein; His Tag
Human IL-31RA Protein; hFc Tag	
c-Kit:SCF	

H_c-Kit(CD117) GNNK(-) 293 Blockade Reporter Cell Line	Cynomolgus_c-Kit(CD117) GNNK(-) CHO-K1 Cell Line
H_c-Kit(CD117) GNNK(-) CHO-K1 Cell Line	H_c-Kit(CD117) GNNK(-) HEK-293 Cell Line
H_c-Kit(CD117) GNNK(+) CHO-K1 Cell Line	
Anti-c-Kit(CD117) hIgG1 Antibody(barzolvolimab)	Anti-c-Kit(CD117) hIgG1 Antibody(briquilimab)
Anti-c-Kit(CD117) hIgG1 Reference Antibody(barbio)	
Biotinylated Human c-Kit(CD117) Protein; His-Avi Tag	Biotinylated Human SCF Protein; His-Avi Tag
Cynomolgus c-Kit(CD117) Protein; His Tag	Human c-Kit(CD117) D4-D5 Protein; His Tag
Human c-Kit(CD117) Protein; hFc Tag	Human c-Kit(CD117) Protein; His Tag
Human SCF Protein; His Tag	Human SCF Protein; mFc Tag
MRGPRX2	
Tango-H_MRGPRX2 CHO-K1 Cell Line	Cynomolgus_MRGPRX2 CHO-K1 Cell Line
Cynomolgus_MRGPRX2 HEK-293 Cell Line	Flag-Mouse_Mrgprb2 CHO-K1 Cell Line
Flag-Rat_Mrgprb3 HEK-293 Cell Line	H_MRGPRX2 CHO-K1 Cell Line
H_MRGPRX2 HEK-293 Cell Line	H_MRGPRX2 HMC-1 Cell Line
H_MRGPRX2 RBL-2H3 Cell Line	
IGHE(FcεRIα)	
Membrane IgE(mIgE) HEK-293 Cell Line	
Biotinylated Human IgE D2-D4 Protein; His-Avi Tag	Cynomolgus IgE D2-D4 Protein; His Tag
Human FCER1A Protein; His Tag	Human FCER2(CD23) Protein; His Tag
Human IgE D2-D4 Protein; His Tag	

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