Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

H_HER2 HER4 Reporter HEK-293 Cell Line

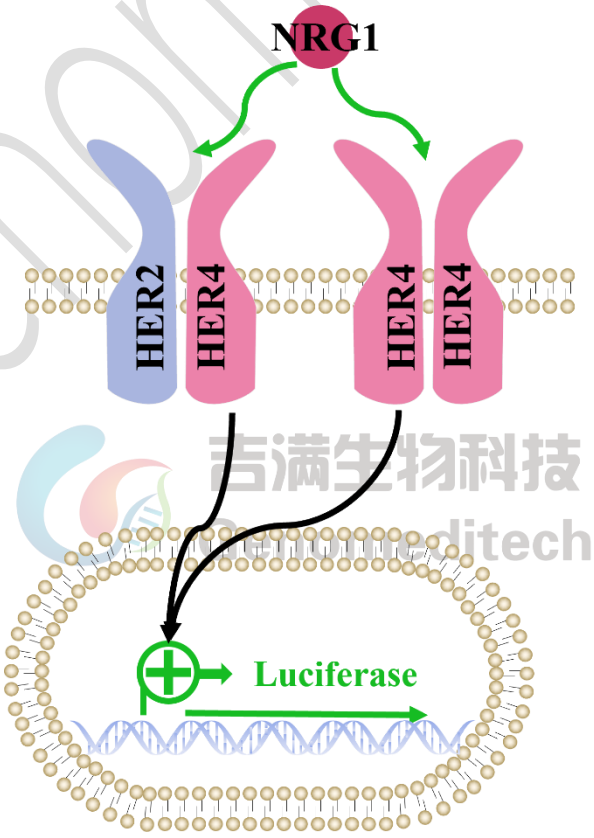
Catalog number: GM-C34194

Version 3.3.1.250117

HER2, a member of the EGFR/ErbB family, is a transmembrane receptor tyrosine kinase that lacks known ligands but forms heterodimers with EGFR family members (e.g., EGFR, HER3, HER4) for activation. Dimerization triggers autophosphorylation and activates pathways like PI3K/AKT and RAS/MAPK. HER2 overexpression or amplification is common in cancers, especially breast and gastric, driving progression and resistance, making it a key cancer therapy target.

HER4, also part of the EGFR/ErbB family, is a transmembrane receptor with tyrosine kinase activity. It binds ligands like the neuregulin (NRG) family to activate. Ligand binding induces dimerization or oligomerization, triggering pathways like PI3K/AKT and JAK/STAT. HER4's role in tumors is complex, promoting survival in some cases but inhibiting growth in others, depending on tumor type and microenvironment.

H_HER2 HER4 Reporter HEK-293 Cell Line is a clonal stable cell line constructed using lentiviral technology, constitutive expression of the HER2 and HER4 gene, along with signal-dependent expression of a luciferase reporter gene. When NGR1 binds to this cell line, it activates 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 HER2 and HER4.



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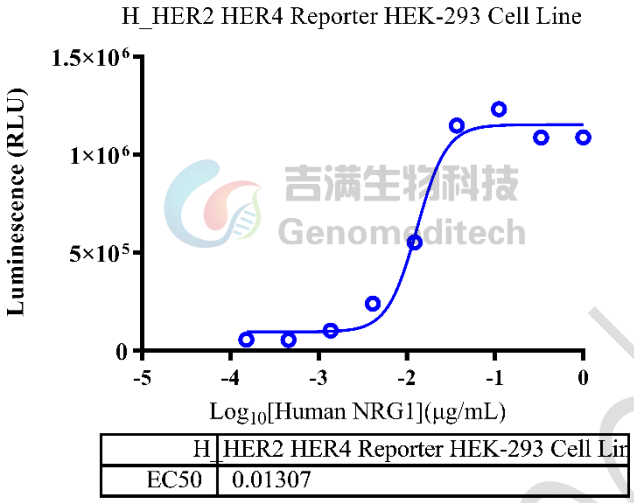
Specifications

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	DMEM+10% FBS+1% P.S
Growth medium	DMEM+10% FBS+1% P.S+4 μg/mL Blasticidin+400 μg/mL G418+125 μg/mL Hygromycin+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

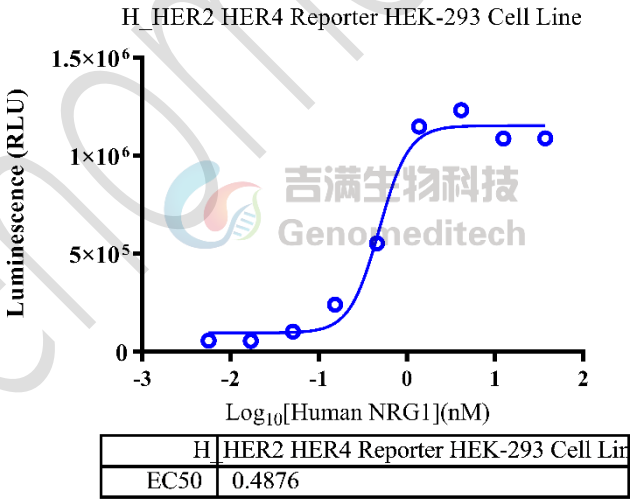
Reagent	Manufacturer/Catalogue No.
DMEM	Gibco/C11995500BT
Fetal Bovine Serum	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
G418	Genomeditech/GM-040402
Hygromycin	Genomeditech/GM-040403
Puromycin	Genomeditech/GM-040401
NRG1 Beta 1 Protein, Human, Recombinant (ECD)	Sino Biological/11609-HNCH
Anti-H_HER2 hIgG1 Antibody(Margetuximab)	Genomeditech/GM-49468AB
Anti-HER4 hIgG1 Antibody(HE4B-27)	Genomeditech/GM-87686AB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

Figures



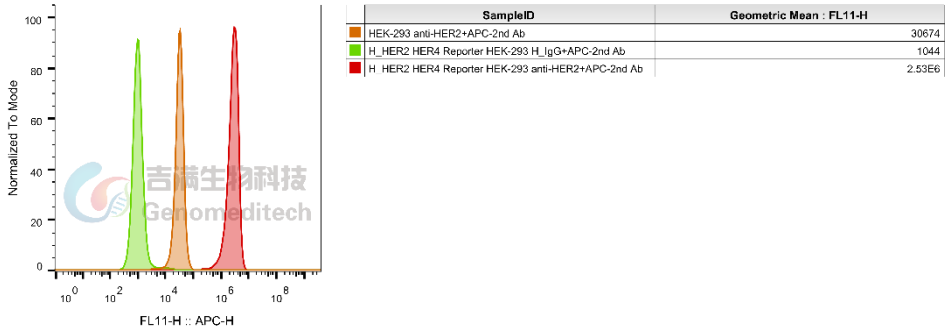
H	HER2 HER4 Reporter HEK-293 Cell Lir
EC50	0.01307

Figure 1 | Response to NRG1 Beta 1 Protein. The H_HER2 HER4 Reporter HEK-293 Cell Line (Cat. GM-C34194) at a concentration of 1.5E4 cells/well (96-well format) was stimulated with serial dilutions of NRG1 Beta 1 Protein (Sino Biological/11609-HNCH) in assay buffer (DMEM + 1% FBS + 1% P.S) for 16 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 [19.1]. Data are shown by drug mass concentration.



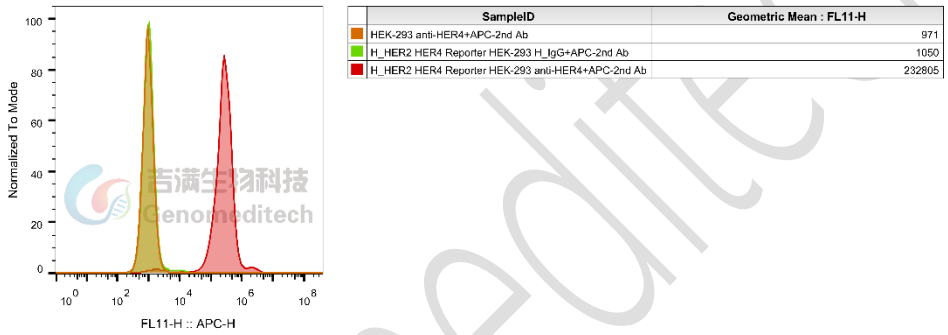
H	HER2 HER4 Reporter HEK-293 Cell Lir
EC50	0.4876

Figure 2 | Response to NRG1 Beta 1 Protein. The H_HER2 HER4 Reporter HEK-293 Cell Line (Cat. GM-C34194) at a concentration of 1.5E4 cells/well (96-well format) was stimulated with serial dilutions of NRG1 Beta 1 Protein (Sino Biological/11609-HNCH) in assay buffer (DMEM + 1% FBS + 1% P.S) for 16 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 [19.1]. Data are shown by drug molar concentration.



SampleID	Geometric Mean : FL11-H
HEK-293 anti-HER2+APC-2nd Ab	30674
H_HER2 HER4 Reporter HEK-293 H_IgG+APC-2nd Ab	1044
H_HER2 HER4 Reporter HEK-293 anti-HER2+APC-2nd Ab	2.53E6

Figure 3 | H_HER2 HER4 Reporter HEK-293 Cell Line (Cat. GM-C34194) was determined by flow cytometry using Anti-H_HER2 hIgG1 Antibody(Margetuximab) (Cat. GM-49468AB).



SampleID	Geometric Mean : FL11-H
HEK-293 anti-HER4+APC-2nd Ab	971
H_HER2 HER4 Reporter HEK-293 H_IgG+APC-2nd Ab	1050
H_HER2 HER4 Reporter HEK-293 anti-HER4+APC-2nd Ab	232805

Figure 4 | H_HER2 HER4 Reporter HEK-293 Cell Line (Cat. GM-C34194) was determined by flow cytometry using Anti-HER4 hIgG1 Antibody(HE4B-27) (Cat. GM-87686AB).

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.

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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+400 μg/mL G418+125 μg/mL Hygromycin+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

HER3(ERBB3)

Cynomolgus_ERBB3(HER3) CHO-K1 Cell Line	Cynomolgus_ERBB3(HER3) HEK-293 Cell Line
H_ERBB3(HER3) CHO-K1 Cell Line	H_ERBB3(HER3) HEK-293 Cell Line
H_ERBB3(HER3) MC38 Cell Line	Mouse_HER3(ERBB3) CHO-K1 Cell Line
Anti-ERBB3(HER3) hIgG1 Reference Antibody(Patribio)	Anti-H_ERBB3(HER3) hIgG1 Antibody(Barecetamab)
Human HER3 Protein; His Tag	
NECTIN4	
H_NECTIN4(nectin-4) CHO-K1 Cell Line	Cynomolgus_Nectin4 CHO-K1 Cell Line
H_NECTIN4 CT26 Cell Line	H_NECTIN4 HEK-293 Cell Line
H_NECTIN4 LLC1 Cell Line	H_NECTIN4 MC38 Cell Line
Anti-H_Nectin4 hIgG1 Antibody(Enfortumab)	Anti-Nectin4 hIgG1 Reference Antibody (Enfobio)
Biotinylated Cynomolgus Nectin-4 Protein; His-Avi Tag	Biotinylated Human Nectin-4 Protein; His-Avi Tag
Biotinylated Mouse Nectin-4 Protein; His-Avi Tag	Cynomolgus Nectin-4 Protein; His Tag
Human Nectin-4 Protein; His Tag	
SLC39A6（LIV1）	
Cynomolgus_SLC39A6 CHO-K1 Cell Line	H_SLC39A6 CHO-K1 Cell Line
H_SLC39A6 HEK-293 Cell Line	H_SLC39A6 LLC1 Cell Line
H_SLC39A6 MC38 Cell Line	
Anti-H_SLC39A6 hIgG1 Antibody(Ladiratuzumab)	Anti-SLC39A6 hIgG1 Reference Antibody (Ladbio)
Anti-SLC39A6-MMAE ADC(Dar4)[Ladiratuzumab vedotin]	
HER2(ERBB2)	
Cynomolgus_HER2(ERBB2) CHO-K1 Cell Line	H_HER2 EMT6 Cell Line
H_HER2 HER3 MC38 Cell Line	H_HER2 MCF-7 Cell Line
H_HER2(ERBB2) CHO-K1 Cell Line	H_HER2(ERBB2) CT26 Cell Line
H_HER2(ERBB2) LLC1 Cell Line	H_HER2(ERBB2) MC38 Cell Line
Anti-H_HER2 hIgG1 Antibody(Margetuximab)	Anti-HER2 hIgG1 Reference Antibody(Marbio)
Anti-HER2 hIgG1 Reference Antibody(Trasbio)	
Anti-HER2-DM1 ADC(Dar4)[Trastuzumab emtansine,T-DM1]	Anti-HER2-DXD ADC(Dar8)[Trastuzumab Deruxtecan]
Cynomolgus HER2 Protein; His Tag	Human HER2 Protein; His Tag
ADC Related Product	
Anti-DXD Mouse IgG1 Antibody (23E21C5)	Anti-DXD Mouse IgG1 Antibody (4A5A12)
Anti-Dxd Mouse IgG2a Antibody (17D6A4)	Anti-Eribulin Mouse IgG2a Antibody (10F8G4)
Anti-MMAE Mouse IgG1 Antibody (11C10E3)	Anti-MMAE Mouse IgG2a Antibody (17A1K11)
Anti-MMAE Mouse IgG2a Antibody (8F6A3)	Mouse anti Human IgG-MMAE(Dar4)
Human IgG1 Isotype-DXD (Dar8)	Human IgG1 Isotype-Eribulin (Dar4)
Human IgG1 Isotype-MMAE (Dar4)	
Recombinant DT3C Protein	

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