

Product Sheet

H_FGFR3c KLB Reporter 293 Cell Line

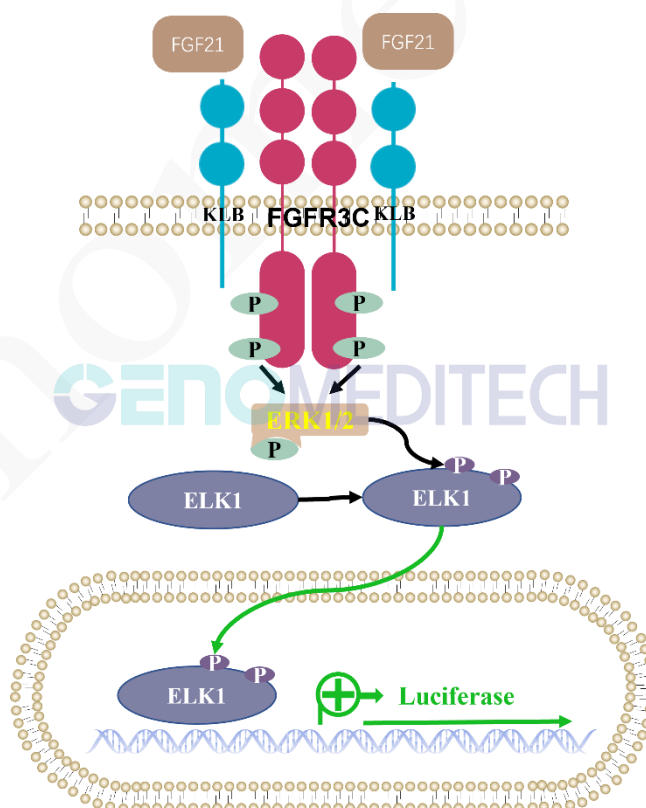
Catalog number: GM-C47356

Version 4.0.26.930



FGFR3 is a receptor tyrosine kinase with alternatively spliced IIIb/IIIc extracellular IgIII domains. The mesenchymal isoform FGFR3c retains exon 9, skips exon 8, and is expressed in the CNS, bone, and kidney/lung. It negatively regulates endochondral ossification via FRS2 α –GRB2–SOS to activate RAS–RAF–MEK–ERK1/2, PI3K–AKT–mTORC1, STAT1/p21, and PLC γ , suppressing chondrocyte proliferation and differentiation; this is antagonized by the CNP–NPR–B–cGMP–PKG2 axis. Gain-of-function mutations cause achondroplasia (p.Gly380Arg, ~98%) and thanatophoric dysplasia. FGFR3 is also oncogenic, altered in ~70% of low-grade non-muscle-invasive bladder cancers (S249C, R248C, Y375C, FGFR3–TACC3 fusions) and ~13–20% of t(4;14) multiple myelomas.

H_FGFR3c KLB Reporter 293 Cell Line is a clonal stable HEK-293 cell line constructed using lentiviral technology, constitutive expression of the FGFR3c and Beta Klotho gene, along with signal-dependent expression of a luciferase reporter gene. When a ligand binds to its receptor, it activates downstream signaling pathways, leading to the expression of luciferase and can be used to evaluate the in vitro effects of related drugs.



Specifications

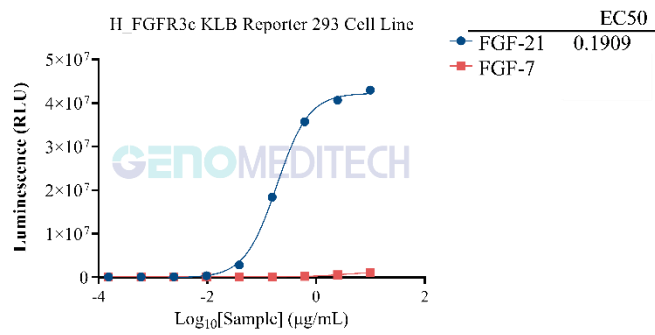
Quantity	5E6 Cells per vial, 1 mL
Product Format	1 vial of frozen cells
Shipping	Shipped on dry ice
Storage Conditions	Liquid nitrogen immediately upon receipt
Recovery Medium	DMEM+10% FBS+1% P.S
Growth medium	DMEM+10% FBS+1% P.S+0.75 µg/mL Puromycin+4 µg/mL Blasticidin+175 µg/mL Hygromycin+400 µg/mL G418
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
G418	Genomeditech/ GM-040402
Hygromycin	Genomeditech/ GM-040403
Puromycin	Genomeditech/ GM-040401
96-well U-bottom Plate	Saining/1014010
96-well White Opaque Plate	Thermo/236108
96 well round cell culture plate	PakGent/CL-PT096
Human FGF-21 Protein; His Tag	Genomeditech/ GM-87962RP
Recombinant Human KGF/FGF-7 Protein (His Tag), HPLC-verified	sinobiological/10210-H07E
Anti-FGFR3 hIgG1 Reference Antibody(Vofabio)	Genomeditech/GM-88323MAB
RG7992 (anti-Klotho Beta)	Aladdin/Ab177889
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/ GM-040513
NovoCyte Flow Cytometer	Agilent/NovoCyte 2060R

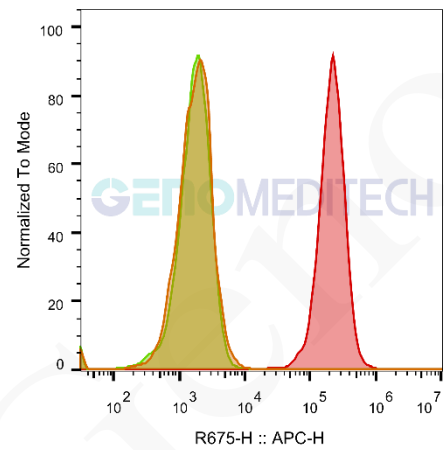
Data

Signaling Pathway



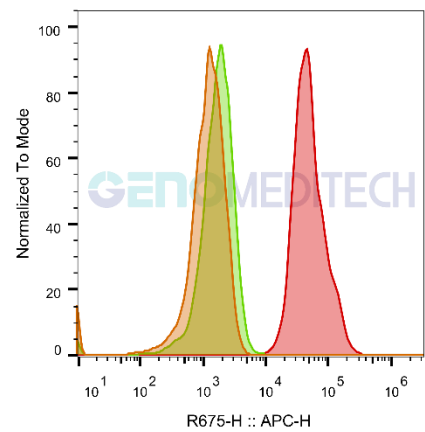
Response to Human FGF-21 and Human FGF-7. The H_FGFR3c KLB Reporter 293 Cell Line (Cat. GM-C47356) at a concentration of 1.5E4 cells/well (96-well format) was stimulated with serial dilutions of Human FGF-21 Protein; His Tag (Cat. [GM-87962RP](#)) and Recombinant Human KGF/FGF-7 Protein (His Tag), HPLC-verified (sinobiological/10210-H07E) 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 folds of Human FGF21, Human FGF-7 were approximately [773.0] and [18.5]. Data are shown by drug mass concentration.

Expression



SampleID	Geometric Mean : R675-H
HEK-293 anti-FGFR3+APC-2nd Ab	1675
H_FGFR3c KLB Reporter 293 H_IgG+APC-2nd Ab	1657
H_FGFR3c KLB Reporter 293 anti-FGFR3+APC-2nd Ab	209254

H_FGFR3c KLB Reporter 293 Cell Line (Cat. GM-C47356) was determined by flow cytometry using Anti-FGFR3 hIgG1 Reference Antibody(Vofabio) (Cat. GM-88323MAB).



SampleID	Geometric Mean : R675-H
HEK-293 anti-Klotho Beta+APC-2nd Ab	1088
H_FGFR3c KLB Reporter 293 H_IgG+APC-2nd Ab	1633
H_FGFR3c KLB Reporter 293 anti-Klotho Beta+APC-2nd Ab	48051

H_FGFR3c KLB Reporter 293 Cell Line (Cat. GM-C47356) was determined by flow cytometry using RG7992 (anti-Klotho Beta) (Aladdin/Ab177889).

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.

- 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 recovery medium. And dispense into appropriate culture dishes.
- 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 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+0.75 µg/mL Puromycin+4 µg/mL Blasticidin+175 µg/mL Hygromycin+400 µg/mL G418

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

- 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.
- Remove and discard culture medium.
- Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.
- 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).
- 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.
- Add 2.0 mL of growth medium to mix well and aspirate cells by gently pipetting.
- After centrifugation, resuspend the pellet and add appropriate aliquots of the cell suspension to new culture vessels.
- 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

FGFR3	
H_FGFR3C CHO-K1 Cell Line (Low Expression)	H_FGFR3C HEK-293 Cell Line
Anti-FGFR3 hIgG1 Reference Antibody(Vofabio)	

License Agreement

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

- This cell line product is restricted to research use only and shall not be used for any commercial purposes.
- This product is strictly prohibited from being used in the diagnosis or treatment of human or animal diseases, and shall not be directly used in experiments involving humans.
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