Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

TGF-β Reporter 293 DDX35™ Cell Line

Catalog number: GM-C27729

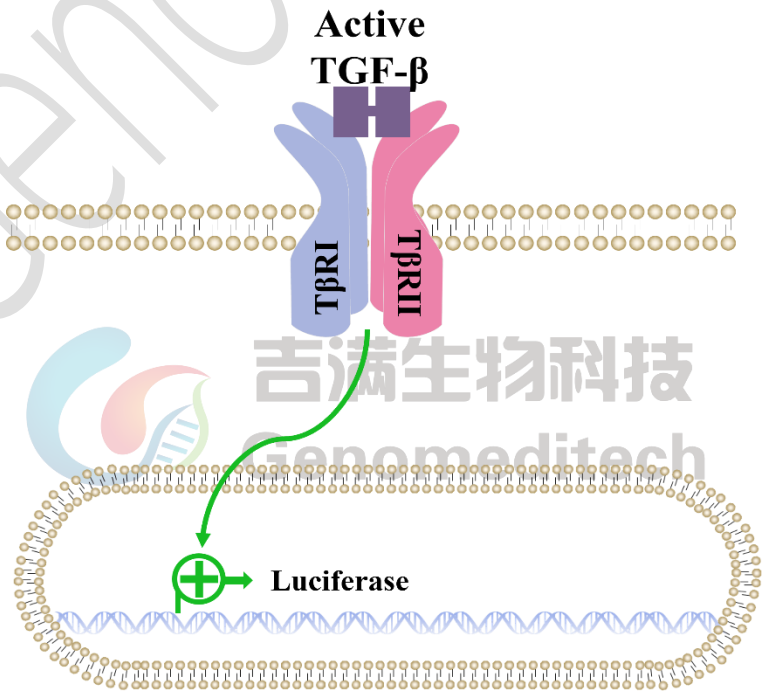
Version 3.3.1.260422

Transforming Growth Factor Beta (TGF-β) is a multifunctional cytokine in the cytokine superfamily, involved in cell growth, differentiation, immune regulation, and tissue repair. It is by binding to TGF-β receptors, activating downstream signaling pathways.

The TGF-β signaling pathway activates the Smad protein family upon TGF-β binding to its receptors. The type II receptor phosphorylates the type I receptor, activating Smad2 and Smad3. These activated Smad proteins form a complex with Smad4, which translocates to the nucleus to regulate target gene transcription.

TGF-β Reporter 293 DDX35™ Cell Line is a clonal stable HEK-293 cell line constructed using lentiviral technology, constitutive expression of the TβRI, endogenously expresses TβRII gene and some adapter membrane molecules, along with signal-dependent expression of a luciferase reporter gene. When TGF-β binds to TGF-β receptors, 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 this signaling pathway.

TGF-β Reporter 293 DDX35™ Cell Line was obtained through extensive monoclonal screening and multiple rounds of monoclonal selection. It possesses high stability, high sensitivity, and high amplification properties, meeting the standards for customers' batch library construction and release experiments.



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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	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
G418	Genomeditech/GM-040402
Hygromycin	Genomeditech/GM-040403
Puromycin	Genomeditech/GM-040401
Recombinant Human TGF-beta 1	Novoprotein/CA59
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513

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Figures

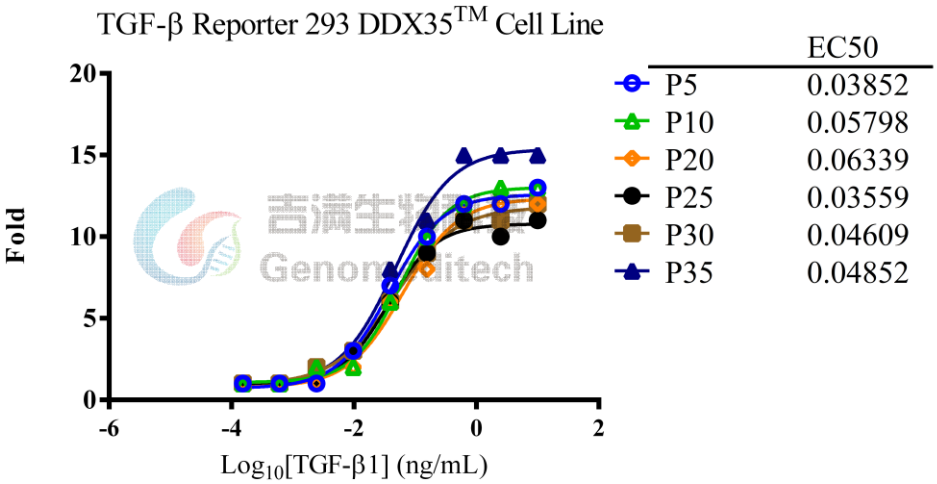

Figure 1 | The passage stability of response to Recombinant Human TGF-beta 1. The passage 5, 10, 20, 25, 30 and 35 of TGF-β Reporter 293 DDX35™ Cell Line (Cat. GM-C27729) at a concentration of 1.8E4 cells/well (96-well format) were stimulated with serial dilutions of Recombinant Human TGF-beta 1 (Novoprotein/CA59) in assay buffer (DMEM + 1% FBS + 1% P.S) for 7 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug mass concentration.

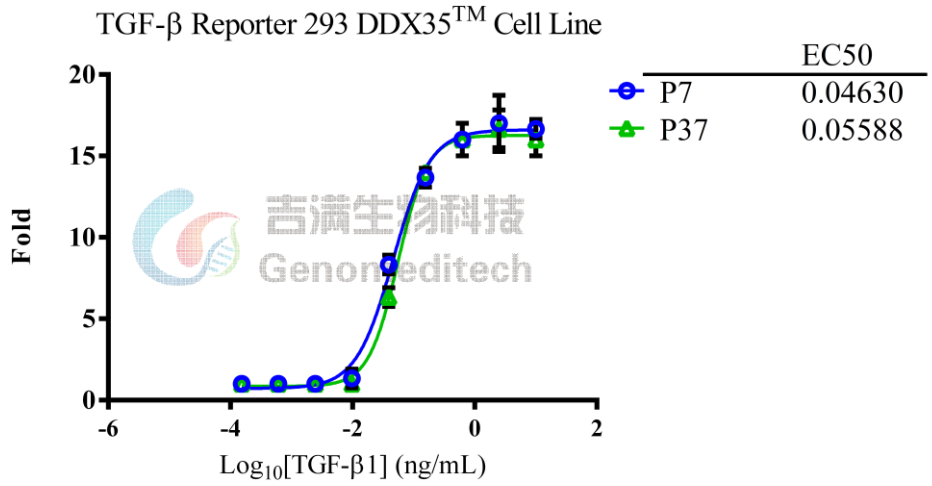

Figure 2 | The passage stability of response to Recombinant Human TGF-beta 1. The passage 7 and 37 of TGF-β Reporter 293 DDX35™ Cell Line (Cat. GM-C27729) at a concentration of 1.8E4 cells/well (96-well format) were stimulated with serial dilutions of Recombinant Human TGF-beta 1 (Novoprotein/CA59) in assay buffer (DMEM + 1% FBS + 1% P.S) for 7 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug mass concentration.

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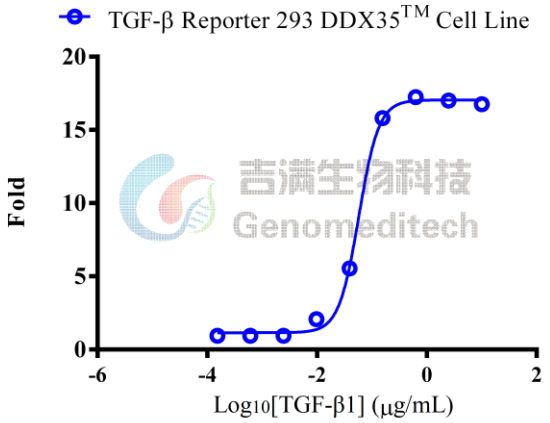
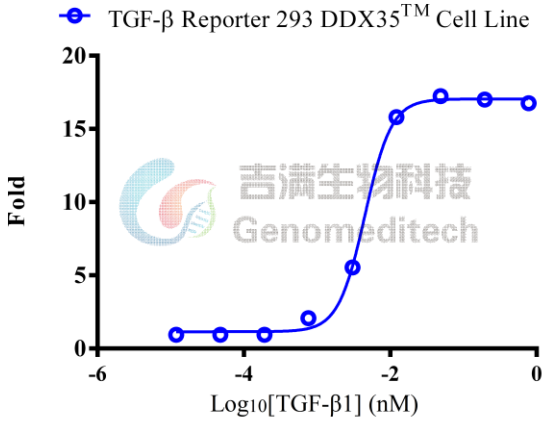


	TGF-β Reporter 293 DDX35™
EC50	0.05772

Figure 3 | Response to Recombinant Human TGF-beta 1. The TGF-β Reporter 293 DDX35™ Cell Line (Cat. GM-C27729) at a concentration of 1.8E4 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human TGF-beta 1 (Novoprotein/CA59) in assay buffer (DMEM + 1% FBS + 1% P.S) for 7 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [16.8]. Data are shown by drug mass concentration.



	TGF-β Reporter 293 DDX35™
EC50	0.004509

Figure 4 | Response to Recombinant Human TGF-beta 1. The TGF-β Reporter 293 DDX35™ Cell Line (Cat. GM-C27729) at a concentration of 1.8E4 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human TGF-beta 1 (Novoprotein/CA59) in assay buffer (DMEM + 1% FBS + 1% P.S) for 7 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [16.8]. Data are shown by drug molar concentration.

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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+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

TGF-β:GARP:avβ6	
H_GARP Latent TGFB1 Reporter HEK-293 Cell Line	TGF-β Reporter HEK-293 Cell Line
Cynomolgus_ITGB6 HEK-293 Cell Line	Cynomolgus_αvβ6 HEK-293 Cell Line
H_GARP HEK-293 Cell Line	H_GARP Latent TGF-β1 CHO-K1 Cell Line
H_GARP Latent TGF-β1 HEK-293 Cell Line	H_ITGB6 CHO-K1 Cell Line
H_ITGB6 HEK-293 Cell Line	H_ITGB6 NIH-3T3 Cell Line
H_αvβ6 CT26 Cell Line	H_αvβ6 HEK-293 Cell Line
H_αvβ6 LLC1 Cell Line	H_αvβ6 MC38 Cell Line
Anti-GARP-TGF-β1 hIgG4 Antibody(ARGX-115)	Anti-ITGB6 hIgG1 Antibody(SGN-B6A)
Anti-TGFB1 hIgG4 Antibody(SRK-181)	Anti-αv hIgG2 Antibody(Abituzumab)
Anti-αvβ6 hIgG1 Antibody(m15H3)	Anti-ITGB6-MMAE ADC(Dar4)[SGN-B6A]
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)	Anti-SN38 Mouse IgG1 Antibody(59H11C7)
Mouse anti Human IgG1-DXD(Dar8)	Mouse anti Human IgG1-MMAE(Dar4)
Human IgG1 Isotype-DXD (Dar8)	Human IgG1 Isotype-Eribulin (Dar4)
Human IgG1 Isotype-MMAE (Dar4)	
Recombinant DT3C Protein	

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