

NRK-49F Cells | 500427**General information**

Description As NRK-52E cells, this cell line originated from the same mixed culture of normal rat kidney cells but has distinct characteristics. The cells exhibit contact inhibition and are very sensitive to viral or chemical transformation, including proteins such as SGF. NRK-49F cells are used for TGF-Beta bioassays.

Organism Rat

Tissue Kidney

Synonyms NRK 49F, NRK49F, NRK clone 49F, Normal Rat Kidney-49F

Characteristics

Morphology Fibroblast-like

Cell type Fibroblast

Growth properties Adherent

Identifiers / Biosafety / Citation

Citation NRK-49F (Cytion catalog number 500427)

Biosafety level 1

Depositor DeLarco

Expression / Mutation

Receptors expressed Epidermal growth factor (EGF), multiplication stimulating activity (MSA)

Handling

Culture Medium EMEM, w: 2 mM L-Glutamine, w: 1.5 g/L NaHCO₃, w: EBSS, w: 1 mM Sodium pyruvate, w: NEAA (Cytion article number 820100c)

Medium supplements Supplement the medium with 10% FBS

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Passaging solution	Accutase
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Subculturing	Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.
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Split ratio	A ratio of 1:3 to 1:4 is recommended
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Seeding density	2 to 4 x 10 ⁴ cells/cm ²
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Fluid renewal	2 to 3 times per week
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Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)
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Handling of cryopreserved cultures

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
7. Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.

To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.

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STR profile

Rat_D1Wox31: 96,100
Rat_D2Wox37: 150,156
Rat_D19Wox11: 220
Rat_D10Wox8: 266,270
Rat_D4Wox7: 153,157,161
Rat_D2Wox27: 211,215
Rat_D5Rat33: 122,138
Rat_D10Wox11: 156
Rat_D1Wox23: 210,214
Rat_D12Wox1: 402,406
Rat_D6Wox2: 104,124
Rat_D8Wox7: 185
Rat_D6Cebr1: 223,233
SRY: x,Y