Product sheet

SVI Cells | 400495

General information

Description	The SVI cell line has been cloned from the outgrowth of glomeruli which were isolated from H-2kb-tsA58 transgenic mice. The mice carry a temperature-sensitive variant of the SV40 large T antigen under control of the IFN-g-inducible H-2kb promoter. Cells proliferate at 33 degree Celsius, and they differentiate at 37 degree Celsius. At present, the cells have been cultured successfully for more than 40 passages without noting phenotypic changes. SVI are very similar to E11 in terms of morphology and the expression of several markers. For example, podocin and WT1 are expressed to a lesser extent as compared to E11. Differentiation: Start the differentiation process by placing the non-confluent flask(s) into an incubator at 38 degree Celsius / 5% CO2 for a minimum of 14 days to complete the differentiation. Addition of interferon-gamma (INF-gamma) is not necessary.
Organism	Mouse
Tissue	Kidney

Characteristics

Age	Adult
Gender	Unspecified
Cell type	Podocyte
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	SVI (Cytion catalog number 400495)
Biosafety level	1
Depositor	Dr. N. Endlich

Expression / Mutation

Protein expression	WT1, Lmx1b, nephrin, NEPHI, FAT, P-cadherin, CD2AP, ZO-I, podocalyxin, podoplanin, synpo, podocin, TRPC6 and GAPDH.

Handling

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Culture Medium	RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
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.
Split ratio	A ratio of 1:3 to 1:5 is recommended Under differentiation conditions, ie incubation of non to confluent cultures at 38 degree Celsius, cell proliferation ceases within the first two weeks and stops after about four weeks
Seeding density	Inocculate T75 cell culture flasks with 1x 10^4 cells/cm^2 (about 60.000 cells/ml, 12ml medium in one T75) for the proliferation process. Keep the cells at 33 degree Celsius / 5% CO2, until the flask is about 75% confluent.
Fluid renewal	3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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.

STR profile

Amelogenin: x,x