

MMQ Cells | 300498

General information

Organism	Rat
Tissue	Brain
Disease	Rat pituitary gland neoplasm
Applications	3D cell culture

Characteristics

Age	5 days
Gender	Unspecified
Morphology	spheroidal cells
Growth properties	Clusters in Suspension

Identifiers / Biosafety / Citation

Citation	MMQ (Cytion catalog number 300498)
Biosafety level	1

Expression / Mutation

Receptors expressed	dopamine
Viruses	SMRV-
Products	prolactin
Karyotype	rat hyperdiploid karyotype with 6% polyploidy - 49-52 - high level of spontaneous breakage

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 7.5% horse serum, 2.5% FBS

Passaging solution

The utilization of a passaging solution is not necessary when passaging cells that are cultured in suspension. The appropriate procedure is to dilute the cells in accordance with the indicated guidelines.

Subculturing

Cultures can be maintained by addition or replacement of fresh medium. Start cultures at 2×10^5 cells/ml and maintain between 1×10^5 and 1×10^6 cells/ml.

Freeze medium

CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

MMQ cells are shipped in a deep-frozen state on dry ice. Upon receipt, confirm that the vial remains frozen. For storage, place the cryovial immediately at temperatures below -150 degrees. If you plan to culture the cells immediately, swiftly thaw the vial by shaking it in a 37 degrees water bath with clean water and an antimicrobial agent for 40-60 seconds. Remove the vial once a small ice clump persists, ensuring it remains cold. Proceed with all subsequent steps under aseptic conditions. In a sterile flow hood, disinfect the cryovial with 70% ethanol. Then, gently open the vial and transfer the cell suspension into a 15 ml centrifuge tube pre-filled with 8 ml of room temperature culture medium. Gently mix the cells. For cell separation, centrifuge at $300 \times g$ for 3 minutes and dispose of the supernatant. Skipping centrifugation is optional, although any residual freezing medium should be removed after 24 hours. Resuspend the pellet gently in 10 ml of fresh culture medium and divide between two T25 culture flasks. Follow the subculture protocol for subsequent steps.

Handling of proliferating cultures

One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in a 50 ml centrifuge tube. Spin down the collected medium at $300 \times g$ for 3 minutes to collect the cells which may have detached during transit. If a cell pellet is visible, resuspend the cells in 5 ml of cell culture medium and transfer to a T25 cell culture flask. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Examine cell morphology and confluency using a microscope. Finally, incubate the flasks at 37 degrees Celsius for at least 24 hours.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contamination is rigorously 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.