Product sheet

A204 growing culture | 330109

General information

Description	A204 cells are human epithelial cells derived from the muscles of a 1-year-old female patient with rhabdomyosarcoma. With applications in 3D cell culture and tumorigenic properties, A-204 cells provide an opportunity for studying tumour biology and potential therapeutic interventions. Derived from muscle tissue, A-204 cells closely resemble the outer layer of cells found in organs and tissues. A-204 cells exhibit adherent growth, have an epithelial morphology and have a karyotype characterized by diploidy and tetraploidy. Furthermore, these cells have demonstrated tumorigenicity, forming malignant tumours consistent with embryonal rhabdomyosarcoma in mice, validating their relevance in cancer research. The presence of specific isoenzymes, including AK-1, ES-D, G6PD, GLO-I, Me-2, PGM1, and PGM3, in A-204 cells provides insight into their metabolic characteristics. These isoenzymes may play a role in understanding cellular processes involved in cancer progression and treatment response. With a doubling time of approximately 36 hours, A-204 cells exhibit rapid proliferation, allowing efficient experimentation and ensuring an ample supply of cells for research applications.
Organism	Human
Tissue	Muscle
Disease	Rhabdomyosarcoma
Synonyms	A-204

Characteristics

Age	1 year
Gender	Female
Morphology	Epithelial-like
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	A204 (Cytion catalog number 300109)
Biosafety level	1

Expression / Mutation

Isoenzymes	PGM3, 1, PGM1, 1, ES-D, 1, Me-2, 1, AK-1, 1, GLO-1, 1, G6PD, B
Tumorigenic	In nude mice. Forms small malignant tumors which are conform to embryonal rhabdomyosarcoma.
Ploidy status	Diploid and tetraploid

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 1.5 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Medium supplements	Supplement the medium with 10% FBS
Passaging solution	Accutase
Doubling time	26 to 36 hours
Subculturing	Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10 ml for T75 cell culture flasks). Add Accutase (1-2 ml per T25, 2.5 ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 8-10 minutes. Carefully resuspend the cells with medium (10 ml), centrifuge for 3 min at 300 g, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.
Split ratio	A ratio of 1:6 to 1:10 is recommended
Seeding density	0.5 to 1 x 10^4 cells/cm^2
Fluid renewal	2 to 3 times per week
Freezing recovery	After thawing, plate the cells at 2 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 to 48 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

A204 growing culture | 330109

Handling of cryopreserved cultures	A204 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 x 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 x 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.
STR profile	**Amelogenin**: x,x **CSF1PO**: 10,13 **D13S317**: 11,12 **D16S539**: 11,12 **D5S818**: 12 **D7S820**: 8,1 **TH01**: 8,9.3 **TPOX**: 8,9 **vWA**: 15,17 **D3S1358**: 14,17 **D21S11**: 28,3 **D18S51**: 17,18 **Penta E**: 7,1 **Penta D**: 9,12 **D8S1179**: 13,15 **FGA**: 21