Product sheet

A72 Cells | 602398

General information

Description	A72 cells are a canine fibrosarcoma cell line derived from a spontaneously occurring tumor in a dog. These cells are used primarily in veterinary oncology research to study the biology, behavior, and treatment responses of canine fibrosarcomas. Their relevance extends to comparative oncology studies, where insights gained from canine cancers can be applied to human cancer research due to the biological similarities between certain canine and human tumors. The A72 cell line exhibits an adherent, fibroblast-like morphology and is known for its aggressive growth in vitro. It has been utilized to investigate various aspects of cancer cell biology, including proliferation, metastasis, and tumor cell interactions with the extracellular matrix. These cells are particularly valuable for assessing the efficacy of chemotherapeutic agents and exploring new therapeutic strategies, including immunotherapy and targeted therapies. A72 cells also provide a useful model for studying the molecular pathways involved in tumor growth and progression, such as signaling through the PI3K/Akt, MAPK, and other related pathways. They are instrumental in understanding the genetic and molecular underpinnings of fibrosarcoma, which can help identify potential biomarkers for diagnosis and targets for treatment in both veterinary and human oncology.
Organism	Canine
Tissue	Muscle
Disease	Carcinoma
Synonyms	A 72, A-72

Characteristics

Breed/Subspecies	Golden Retriever
Age	8 years
Gender	Female
Morphology	Fibroblast-like
Growth properties	Monolayer, adherent

Regulatory Data

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Citation	A72 (Cytion catalog number 602398)
Biosafety level	1
NCBI_TaxID	9615
CellosaurusAccession	CVCL_3453

Biomolecular Data

Virus susceptibility	Canine coronaviruses, canine adenovirus I, II, canine herpes viruses, canine parainfluenzavirus, canine parvovirus canine distemper virus, minute virus of canines

Handling

Culture Medium	DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
Doubling time	24 hours
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.
Seeding density	2 x 10^4 cells/cm^2 will result in a confluent monolayer within 3 days.
Fluid renewal	2 to 3 times per week
Post-Thaw Recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Thawing and Culturing Cells	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. 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.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
Shipping Conditions	Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately −78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.
Storage Conditions	For long-term preservation, place vials in vapor-phase liquid nitrogen at about −150 to −196 °C. Storage at −80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Quality Control & Molecular Analysis

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.