Product sheet

CAL-62 Cells | 305114

General information

Description	The CAL-62 cell line, originally derived from the right lobe of the thyroid gland of a 70-year-old Caucasian woman in 1988, is particularly useful for investigating thyroid anaplastic carcinoma. These human epithelial-like cells exhibit a distinctive monolayer growth pattern and possess notable tumorigenic properties. When transplanted into immunodeficient nude mice, CAL-62 cells efficiently form tumors, providing researchers with a valuable in vivo model to explore the dynamics of tumor progression and assess potential therapeutic strategies. Moreover, the rapid proliferation rate of CAL-62 cells, characterized by a doubling time of approximately 24 hours, offers a distinct advantage in time-sensitive experiments, significantly expediting discoveries in thyroid anaplastic carcinoma research. Additionally, the characterization of CAL-62 cells includes specific genetic attributes, such as the presence of the KRAS p.G12R mutation and copy number changes at the 9p21.3 locus, reflecting the complex nature of thyroid anaplastic carcinoma. The cell line's stable epithelial phenotype, coupled with its established radioresistance, underscores its relevance and importance in advancing our understanding of thyroid anaplastic carcinoma and potential therapeutic interventions.
Organism	Human
Tissue	Thyroid
Disease	Thyroid gland anaplastic carcinoma
Synonyms	Cal-62, CAL 62, Cal 62, CAL62, Centre Antoine Lacassagne-62

Characteristics

Age	70 years
Gender	Female
Ethnicity	European
Morphology	Epithelial
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	CAL-62 (Cytion catalog number 305114)
Biosafety level	1

Expression / Mutation

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	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.
Split ratio	1:2 to 1:5
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)
Handling of cryopreserved cultures	CAL-62 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.

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.