Product sheet

Cytion

BRL-3A Cells | 500129

General information

Description	The BRL-3A cell line is derived from the normal liver of a male Buffalo rat. Established in 1976, this cell line is an important in vitro model primarily used for studying hepatocyte function, liver regeneration mechanisms, and hepatotoxicity. BRL-3A cells retain several characteristics of primary hepatocytes, including the ability to synthesize albumin and other serum proteins, making them a valuable tool in hepatological research. These cells exhibit an epithelial-like morphology and are adherent with a high growth rate in culture. Scientific interest in BRL-3A extends to its application in the study of liver-specific viral infections, drug metabolism, and the effects of various growth factors and cytokines on liver cells. Researchers also utilize BRL-3A cells to investigate the impact of toxins and carcinogens on liver function, providing insights into hepatocarcinogenesis and liver injury. The cells are known to respond to peroxisome proliferators and have been used to test the efficacy and safety of pharmaceuticals potentially affecting liver function. However, despite their versatility, users of the BRL-3A cell line must consider the limitations inherent to a non-human model, as results may not always directly translate to human liver physiology. This factor underscores the importance of corroborating findings with additional models and experimental approaches.
Organism	Rat
Tissue	Liver
Synonyms	BRL3A, BRL 3A, Buffalo Rat Liver-3A

Characteristics

Growth properties	Adherent

Regulatory Data

Citation	BRL-3A (Cytion catalog number 500129)
Biosafety level	1
NCBI_TaxID	10116
CellosaurusAccession	CVCL_0606

Biomolecular Data

Products	Multiplication stimulating activity (MSA).

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Handling

Culture Medium	Ham's F12, w: 1.0 mM stable Glutamine, w: 1.0 mM Sodium pyruvate, w: 1.1 g/L NaHCO3 (Cytion article number 820600a)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	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.
Seeding density	Seeding density of 1 x 10^4 cells/cm^2 is recommended.
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.

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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.