Product sheet

LN18 Cells | 305822

General information

Description	LN-18 is a human malignant glioma cell line originally derived from a temporal lobe tumor of an adult male patient diagnosed with glioblastoma multiforme (Kernohan grade IV). The line was established in vitro and has been maintained for over 115 passages in monolayer culture. LN-18 cells exhibit bipolar or stellate morphologies with pleomorphic nuclei and have a doubling time of approximately 72 hours. Although early cultures and biopsy material expressed glial fibrillary acidic protein (GFAP), GFAP synthesis was not observed in later passages. However, the glial origin of the cells was confirmed via ultrastructural analysis. LN-18 cells also showed the presence of Ia-like antigens on their surface and were capable of synthesizing high levels of fibronectin, both features relevant to glioma pathology and tumor-host interactions. In terms of tumorigenicity, LN-18 cells are capable of forming solid tumors when injected into nude mice, with the resultant tumors being transplantable and histologically similar to the original glioblastoma. Karyotypic analysis revealed the presence of three consistent marker chromosomes, providing a cytogenetic fingerprint for the cell line. Despite the lack of detectable GFAP or S-100 protein in later passages, the LN-18 line remains a valuable model for studying human glioma biology, especially in relation to cell surface antigen expression, tumorigenicity, and extracellular matrix interactions through fibronectin production. The cell line also possesses stable growth characteristics and is amenable to cryopreservation, making it suitable for long-term experimental use.
Organism	Human
Tissue	Brain, right temporal lobe
Disease	Glioblastoma
Synonyms	LN 18, LN18, LN018

Characteristics

Age	61 years
Gender	Male
Ethnicity	Caucasian
Growth properties	Adherent

Regulatory Data

Citation	LN-18 (Cytion catalog number 305822)

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Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0392

Biomolecular Data

Antigen expression	HLA A2, A9, B5, BW35, DRW3
Oncogenes	P53+ (mutated, TGT (Cys) --> TCT (Ser) mutation at codon 238); PTEN+ (wild-type); p16- (deleted); p14ARF- (deleted)
Tumorigenic	Yes; Yes, forms tumors in nude mice
Mutational profile	Mutation: Gene deletion, CDKN2A, Homozygous. Mutation, PIK3CB, Simple, p.Glu1051Lys (c.3151G>A), Homozygous, TP53, Simple, p.Cys238Ser (c.713G>C), Homozygous

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 5% FBS
Dissociation Reagent	Accutase
Doubling time	72 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

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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.