Product sheet

IMR-32 Cells | 300148

General information

Description	IMR-32 is a human neuroblastoma cell line derived from the adrenal medulla of a child diagnosed with neuroblastoma, a malignant tumor originating from neural crest cells. These cells exhibit characteristics of immature neuronal cells, making them a valuable model for studying neuronal differentiation, neuroblastoma pathogenesis, and the molecular mechanisms underlying neurodevelopmental processes. The IMR-32 cells have a high capacity for proliferation and retain the ability to synthesize catecholamines, particularly dopamine and norepinephrine, which are essential neurotransmitters in the nervous system. IMR-32 cells display a diploid karyotype with specific chromosomal aberrations commonly associated with neuroblastoma, such as amplification of the MYCN oncogene. This feature makes them particularly useful for research into the genetic and molecular drivers of neuroblastoma, including MYCN's role in tumorigenesis and progression. Additionally, IMR-32 cells are employed in drug screening assays to evaluate the efficacy and cytotoxicity of potential therapeutic agents targeting neuroblastoma. However, it is crucial to note that these cells are intended solely for in vitro research purposes and are not suitable for any therapeutic or in vivo applications.
Organism	Human
Tissue	Brain
Disease	Neuroblastoma
Metastatic site	Abdomen
Synonyms	IMR 32, IMR32, Institute for Medical Research-32, GM03320, GM3320C, GM03320D, AG03320, AG3320

Characteristics

Age	13 months
Gender	Male
Ethnicity	Caucasian
Morphology	Fibroblast-like
Cell type	Neuroblast
Growth properties	Adherent

IMR-32 Cells | 300148

Regulatory Data

Citation	IMR-32 (Cytion catalog number 300148)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_0346

Biomolecular Data

Isoenzymes	G6PD, B
Virus susceptibility	Vesicular stomatitis (Indiana), herpes simplex, vaccinia, coxsackievirus B3, poliovirus 3 (poorly)
Virus resistance	Echovirus 11
Reverse transcriptase	Negative

Handling

Culture Medium	EMEM (MEM Eagle), w: 2 mM L-Glutamine, w: 2.2 g/L NaHCO3, w: EBSS (Cytion article number 820100a)
Supplements	Supplement the medium with 10% FBS and 1% NEAA
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	1×10^4 cells/cm^2

IMR-32 Cells | 300148

Fluid renewal	Every 3 to 5 days
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.