Product sheet

C17.2 Cells | 305354

General information

Description	The C17.2 cell line is a neural progenitor line derived from the mouse cerebellum using retroviral-mediated oncogene transfer with the avian myc gene. It is one of several lines developed to study the differentiation potential of neural progenitor cells, particularly focusing on neuron and glial cell lineages. C17.2 cells exhibit key characteristics of neural progenitors and can differentiate into both neuronal and glial cells under appropriate conditions, making them valuable for studies on neural development, neurogenesis, and gliogenesis. One defining feature of C17.2 is its potential to differentiate into distinct neural cell types while maintaining mitotic potential, allowing for extended culture and experimental manipulation. This line expresses markers characteristic of neural stem and progenitor cells and can be induced to express lineage-specific markers depending on the differentiation protocol. The stability and multipotency of C17.2 enable its use in examining factors affecting lineage commitment in neural cells, as well as its application in neural repair and regeneration research. Researchers employ C17.2 cells in both in vitro and in vivo contexts to understand mechanisms controlling cell fate within the central nervous system (CNS). In addition, the line's well-characterized gene integration sites and consistent expression of specific neural markers make it a reliable model for neurodevelopmental studies and for exploring the potential therapeutic roles of neural progenitor cells in neurodegenerative disease models.
Organism	Mouse
Tissue	Brain, cerebellum
Synonyms	C17

Characteristics

Breed/Subspecies	C57BL/6 x CD-1
Age	Newborn
Gender	Unspecified
Cell type	Neural progenitor cell
Growth properties	Adherent

Regulatory Data

Citation	C17.2 (Cytion catalog number 305354)

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Biosafety level	1
NCBI_TaxID	10090
CellosaurusAccession	CVCL_4511

Biomolecular Data

Oncogenes	Transformant: v-Myc

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
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 to 4 x 10^4 cells/cm^2
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.