Product sheet

C8-D1A Cells | 300316

General information

Description	The C8-D1A cell line is an astrocyte cell line derived from the cerebral cortex of an 8-day-old C57BL/6 mouse. This cell line is extensively used in neurobiological research due to its robust astrocytic properties, which make it a representative model for studying various aspects of astrocyte function and neuron-glia interactions. The C8-D1A cells express glial fibrillary acidic protein (GFAP), a hallmark intermediate filament protein of mature astrocytes, indicating their differentiated state and astrocytic lineage. Research utilizing the C8-D1A cell line has contributed significantly to understanding neuroinflammatory responses, glial scar formation, and the role of astrocytes in neurotransmitter regulation and synaptic maintenance. These cells provide a consistent and controlled in vitro environment for dissecting molecular pathways involved in neurodegeneration, CNS injuries, and astrocyte-mediated neuroprotection. Their utility in assays related to drug discovery, particularly for neurological disorders, underscores their importance in therapeutic development processes.
Organism	Mouse
Tissue	Brain
Applications	3D cell culture, Neuroscience
Synonyms	C8D1A, Astrocyte type I clone

Characteristics

Age	8 days
Gender	Unspecified
Morphology	Neuronal
Cell type	Astrocyte
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	C8-D1A (Cytion catalog number 300316)
Biosafety level	1

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Expression / Mutation

Ploidy status	pseudodiploid

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
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.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

Handling of cryopreserved cultures

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.

Quality control / Genetic profile / HLA

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.