B104

305744

OBECNÉ INFORMACE

Popis

The B104 cell line is a clonal subline derived from the rat neuroblastoma B103 cell line, which originated from a chemically induced brain tumor in a young rat. B104 cells possess neuronal characteristics and are commonly used as an in vitro model for studying neuronal differentiation, neurotoxicity, and signal transduction in neurobiology and neuropharmacology. Unlike the parental B103 line, which is more heterogeneous, B104 was selected for its stable growth properties and more homogeneous neuronal phenotype, including the expression of neuron-specific markers such as neurofilament proteins and the ability to extend neurite-like processes under appropriate culture conditions. B104 cells grow as an adherent monolayer with polygonal morphology and retain responsiveness to neurotrophic factors, making them suitable for investigating molecular pathways involved in neuronal growth, injury, and survival. These cells have been utilized in various experimental contexts, including modeling oxidative stress, evaluating drug-induced neurotoxicity, and studying neuroprotective agents. B104 cells are also responsive to external stimuli that induce neuronal differentiation, such as low-serum conditions or exposure to agents like dibutyryl-cAMP, and they express several neurotransmitter-related enzymes, further underscoring their utility as a simplified neuronal system. Despite their usefulness, B104 cells remain a transformed tumor-derived line, and thus exhibit limitations in modeling fully differentiated neurons or replicating all aspects of primary neuronal physiology. Nevertheless, they serve as a reproducible and manipulable platform for high-throughput screening and mechanistic studies in neurobiology.

Tkáň	Peripheral blood
Nemoc	B-cell neoplasm

KLASIFIKACE

Organismus	Člověk
Sex	Muž
Růstové vlastnosti	Přívrženec
Úroveň biologické bezpečnosti	1

CHARAKTERISTIKA

Morfologie	Lymphocyte-like

IDENTIFIKÁTORY

Citace

B104 (Cytion catalog number 305744)

Daňové identifikační číslo NCBI	9606
Cellosaurus	CVCL_M498

EXPRESE A NÁCHYLNOST

Exprese antigenu

IgM and IgD are expressed on the surface of cells.

MANIPULACE A CHOV

Pěstovací médium

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)

Inkubační atmosféra	37°C, 5% CO_2, humidified atmosphere.

Doplňky stravy

Supplement the medium with 10% FBS

Disociační činidlo	Accutase
Hustota výsevu	2-4*10^4/cm²

Rozmrazování a kultivace

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
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.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

KONTROLA KVALITY A KRYOKONZERVACE

Sterilita

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.

Mrazicí médium	As a cryopreservation medium, we recommend CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Podmínky skladování

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.

Dopravní podmínky

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.

DÁRCE

Věk dárce	Children
Etnická příslušnost	Japanese

PRÁVNÍ INFORMACE A BEZPEČNOSTNÍ POKYNY

Bezpečnostní opatření

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Prohlášení o vyloučení odpovědnosti

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

Záruka

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Je nutná smlouva o převodu materiálu	Yes

PODROBNOSTI O PRODUKTU

Tabulka složení