C6-Luc

305620

GENERAL INFORMATION

Description

C6-Luc is a genetically modified derivative of the rat C6 glioma cell line, which was originally established from a N-nitrosomethylurea-induced glial brain tumour in a Wistar rat by Benda et al. (1968). The parental C6 line was stably transfected with a eukaryotic expression plasmid encoding luciferase under control of a constitutive promoter, followed by selection with hygromycin B to obtain stably expressing monoclonal populations.
C6-Luc cells constitutively express luciferase and emit bioluminescent signal in the presence of a luciferin substrate, enabling real-time, non-invasive monitoring of tumour growth by bioluminescence imaging (BLI) in live animals. The line is used to establish orthotopic syngeneic glioma models in Wistar or Sprague-Dawley rats following intracranial stereotactic implantation, and in subcutaneous xenograft models. Applications include evaluation of anti-glioma therapies, drug penetration across the blood-brain barrier, and development of brain tumour imaging platforms.

Tissue	Brain
Disease	Rat malignant glioma

Applications

Orthotopic rat glioma model for bioluminescence imaging; preclinical evaluation of anti-glioma therapies; blood-brain barrier drug penetration studies; neuroscience and brain tumour research.

Synonyms

- Luciferase Reporter C6 Cell Line

CLASSIFICATION

Organism	Rat
Sex	Male
Growth properties	Adherent
GMO status	GMO-S1

GMO status details

GMO-S1: This cell line contains a stably integrated firefly luciferase reporter cassette (Luc2, codon-optimized) introduced via replication-incompetent lentiviral transduction. The resulting polyclonal cell population was maintained under puromycin selection (1–5 µg/mL). S1 containment is required. This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Morphology	Polygonal / epithelial-like
Tumourigenic	Yes; forms intracranial tumours in syngeneic Wistar/Sprague-Dawley rats
Doubling time	24-48 hours

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IDENTIFIERS

Citation

C6-Luc (Cytion catalog number 305620)

NCBI TaxID	10116
Cellosaurus	CVCL_E3GZ

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

Luc2 (firefly, codon-optimized)

Products

Firefly luciferase (luc2, pGL4.50)

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

Incubation atmosphere	37°C, 5% CO_2, humidified atmosphere.

Supplements

10% Fetal Bovine Serum

Dissociation reagent	Accutase

Subculturing

Passage sub-confluent cultures (70–80%) at 1:3 to 1:6 using 0.25% Trypsin/EDTA.

Seeding density	1-3*10^4/cm²

Thawing and culturing

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

Freeze medium	As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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.

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.

DONOR

Donor age	Age unspecified

LEGAL AND SAFETY

Safety precautions

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.

Warranty

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.

Material Transfer Agreement required	Yes