Product sheet

LX-2 Cells | 305039

General information

Description	LX-2 is a human hepatic stellate cell line that has become a standard model for studying liver fibrosis. This cell line was immortalized from primary human hepatic stellate cells, retaining many of the in vivo characteristics necessary for the study of stellate cell activation, interaction with other liver cell types, and response to inflammatory signals. LX-2 cells are particularly noted for their utility in research focused on the pathogenesis of liver fibrosis and the evaluation of anti-fibrotic drugs. They express a variety of markers relevant to stellate cell function and fibrogenesis, including alpha-smooth muscle actin (α-SMA), glial fibrillary acidic protein (GFAP), and type I collagen. The cell line offers an advantageous model due to its stable phenotype and responsiveness to cytokines and growth factors typically involved in liver disease processes. LX-2 cells are used to examine the cellular and molecular mechanisms underlying liver fibrosis, including the role of stellate cells in extracellular matrix deposition and the modulation of these processes by therapeutic agents. These cells provide a reproducible and controlled in vitro environment that supports high-throughput screening and mechanistic studies, making them valuable for both basic research and pharmaceutical development targeting liver diseases.
Organism	Human
Tissue	Liver
Synonyms	Lieming xu-2

Characteristics

Age	Age unspecified
Gender	Male
Morphology	Epithelial
Cell type	Hepatic Stellate cells
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	Lx-2 (Cytion catalog number 305039)
Biosafety level	1

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Expression / Mutation

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 2% 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.
Split ratio	1:2 to 1:4
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100)

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.
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.