L Wnt-3A

305184

GENERAL INFORMATION

Description

The L Wnt-3A cell line is a derivative of the L cells, originally derived from mouse fibroblast cells. This cell line is specifically engineered to stably express the Wnt-3A protein, a critical component of the Wnt signaling pathway. Wnt signaling is crucial for various developmental processes, including cell proliferation, differentiation, and migration. The stable expression of Wnt-3A in this cell line makes it a valuable tool for studying the molecular mechanisms underlying these biological processes, particularly in the context of cancer research, tissue regeneration, and embryonic development.
Researchers often utilize the L Wnt-3A cell line to produce conditioned medium rich in Wnt-3A, which can then be used to activate Wnt signaling in other cell types. This application is especially beneficial in the study of stem cell biology and regenerative medicine, where Wnt signaling plays a pivotal role in maintaining stem cell pluripotency and promoting tissue repair. Additionally, the cell line serves as a model to investigate the dysregulation of Wnt signaling in various cancers, providing insights into potential therapeutic targets and treatments.
Due to the robust and reliable expression of Wnt-3A, the L Wnt-3A cell line is widely used in laboratories to explore the effects of Wnt signaling on different cellular processes. It is an indispensable resource for scientists aiming to unravel the complexities of Wnt-mediated cellular functions and to develop novel strategies for modulating this pathway in disease contexts.

Tissue	Subcutaneous connective tissue, areolar and adipose

Synonyms

- L-Wnt-3A
- L-Wnt3A
- LWnt3A
- LWnt-3A

CLASSIFICATION

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

GMO status details

GMO-S1: This murine L-cell-derived line (L Wnt-3A) contains a Wnt3a expression construct under PGK promoter control with neomycin resistance, enabling secretion of Wnt3a. The insert is stably integrated into L-cells. This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Morphology	Fibroblast

IDENTIFIERS

Citation

L Wnt-3A (Cytion catalog number 305184)

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NCBI TaxID	10090
Cellosaurus	CVCL_0635

EXPRESSION AND SUSCEPTIBILITY

Protein expression

Wnt-3A

HANDLING AND CULTURE

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)

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

Supplements

Supplement the medium with 10% FBS, 0.4 mg/mL G-418

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.

Fluid renewal	2 to 3 times per week

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 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.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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

Breed / subspecies	C3H/An
Donor age	100 days

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