HeLa EB3-GFP Kirc 14 09/27/24

305718

GENERAL INFORMATION

Description

HeLa EB3-GFP Kirc 14 is a genetically modified derivative of the human HeLa cervical carcinoma cell line, engineered to stably express a GFP-tagged EB3 (end-binding protein 3) fusion construct, with "Kirc 14" denoting a specific sub-clone (clone 14) selected from the transfected pool. EB3 is a member of the end-binding protein family that tracks growing microtubule plus-ends and serves as a reporter for dynamic microtubule behaviour in living cells. The GFP-EB3 fusion protein produces characteristic comet-like fluorescent signals at polymerizing microtubule tips, enabling live-cell imaging of microtubule dynamics, intracellular transport, and cytoskeletal organisation in real time.
HeLa EB3-GFP Kirc 14 is used in cell biology research for live-cell imaging of microtubule plus-end dynamics, studies of mitotic spindle assembly and kinetochore-microtubule interactions, investigations of intracellular cargo transport, and evaluation of compounds that affect microtubule polymerization dynamics. The stable sub-clonal GFP-EB3 expression provides consistent fluorescence intensity and pattern across passages, making clone 14 suitable for quantitative imaging assays and high-throughput screening of microtubule-targeting agents.

Tissue	Cervix
Disease	Cervical adenocarcinoma (HeLa background); stably transfected with GFP-EB3 (microtubule plus-end reporter)

Applications

Live-cell microtubule dynamics imaging; mitotic spindle studies; kinetochore-microtubule interaction research; intracellular transport; microtubule-targeting drug screening

CLASSIFICATION

Organism	Human
Growth properties	Adherent
GMO status	GMO-S1

GMO status details

GMO-S1: This HeLa EB3 GFP KIRC14 line contains a GFP-tagged EB3 construct for microtubule plus-end tracking in live-cell imaging. This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Cell type	Epithelial cells
Doubling time	approx. 24 hours

IDENTIFIERS

Citation

HeLa EB3-GFP Kirc 14 09/27/24 (Cytion catalog number 305718)

NCBI TaxID	9606

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Banking information
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Cellosaurus	Derived from HeLa (CVCL_0030); GFP-EB3 sub-clone not independently assigned

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

Dissociation reagent	Accutase, 10 min., 37°C

Subculturing

Remove the old medium from the adherent cells and wash with PBS. Cover with Accutase, incubate at room temperature for 8-10 minutes, resuspend with medium, centrifuge at 300×g for 3 minutes, and transfer to fresh flasks with selection medium.

Split ratio	1 to 5
Seeding density	1 to 3 × 10^4 cells/cm^2
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 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.

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

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