

HeLa EB3 GFP KIRC14 Cells | 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.

Organism

Human

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

Characteristics

Morphology

Epithelial-like

Cell type

Epithelial cells

Growth properties

Adherent

Regulatory Data

Citation

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

Biosafety level

1

NCBI_TaxID

9606

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CellosaurusAccession Derived from HeLa (CVCL_0030); GFP-EB3 sub-clone not independently assigned

GMO Status 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.

Biomolecular Data**Handling**

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)

Supplements Supplement the medium with 10% FBS

Dissociation Reagent Accutase, 10 min., 37°C

Doubling time approx. 24 hours

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 × 10⁴ cells/cm²

Fluid renewal 2 to 3 times per week

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

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Thawing and Culturing Cells

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

Incubation Atmosphere

37°C, 5% CO₂, humidified atmosphere.

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.

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.

Quality Control & Molecular Analysis