Product sheet

HK-CRISPR-CAP-H2-mEGFP Cells | 301569

General information

Description	The HK-CRISPR-CAP-H2-mEGFP cell line is a Hela Kyoto cell model developed using CRISPR-Cas9 technology. This cell line incorporates the mEGFP (monomeric Enhanced Green Fluorescent Protein) into the CAP-H2 gene, which is part of the condensin II complex involved in chromosome segregation and condensation during mitosis. The mEGFP tag allows researchers to visually track condensin II dynamics during cell division. This cell line is useful for studying mitotic processes, chromosome architecture, and gene regulation. The mEGFP marker enables live-cell imaging and real-time observation of CAP-H2 protein function. This model helps investigate the molecular mechanisms of cell cycle progression and chromosomal integrity, aiding in the understanding of genetic disorders and the development of therapeutic strategies.
Organism	Human
Tissue	Endocervix
Disease	Adenocarcinoma
Synonyms	HK-CRISPR-CAP-H2-mEGFP #67, HK CRISPR CAP-H2-mEGFP

Characteristics

Age	30 years
Gender	Female
Ethnicity	African American
Morphology	Epithelial-like cells with mosaic stone shape
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	HK-CRISPR-CAP-H2-mEGFP no.67 (Cytion catalog number 301569)
Biosafety level	1
Depositor	Dr. J. Ellenberg, EMBL Heidelberg

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Expression / Mutation

Products	EGFP (Enhanced Green Fluorescent Protein)

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 10% 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	A ratio of 1:3 is recommended
Fluid renewal	2 to 3 times per week
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)

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. Optionally, skip centrifugation but remove any remaining freezing medium after 24 hours.
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.