

**Designation: HeLa Kyoto EGFP-LaminA/H2B-mCherry**

CLS order number: Cryovial: 300921  
Vital: 330921

**Origin and General Characteristics**

Depositor:	Dr Jan Ellenberg, EMBL Heidelberg.
Organism:	Human (Homo sapiens)
Fluorescence Marker:	EGFP-LaminA and H2B-mCherry
Percentage of expressing cells:	Close to 100%
Expression level:	This clonal stable cell line shows some variegation.
Production:	This clonal stable cell line was generated by transfection of a circular plasmid (see below) followed by drug resistance selection.
Morphology:	Epithelial-like cells with mosaic stone shape.
Cell type:	HeLa Kyoto, human cervix carcinoma cells.
Growth Properties:	Monolayer, adherent

**Culture Conditions and Handling**

Culture Medium:	DMEM high glucose (4.5 g/L) supplemented with 2 mM L-glutamine, 100U/mL streptomycin, 100ug/mL penicillin and 10% fetal bovine serum.
Culture Conditions:	37°C, 5% CO <sub>2</sub> , 95% humidity.
Drug resistance:	Add G418 to culture medium at a final concentration of 0.5mg/ml and puromycin at 0.5 µg/ml.
Subculturing:	Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add Accutase (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 8-10 minutes. Carefully resuspend the cells with medium (10 ml), centrifuge for 5 min at 300xg, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.
Split Ratio:	A ratio of 1 to 3 is recommended
Fluid Renewal:	2 to 3 times weekly
Freeze Medium:	CM-1 (Order no.: 800150, 50ml, CLS Cell Lines Service GmbH)
Sterility:	Fluorescence (DAPI) test: negative; Mycoplasma specific PCR: negative; Bacteria specific PCR: negative
Biosafety Level:	1
Permit:	EMBLEM MTA is required for the transfer of this CLS material.

**Special Features of the Cell Line**

Viruses:	SMRV: Negative, as confirmed by Real-Time PCR
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**References:**

Neumann, B., Walter, T., Heriche, J.K., Bulkescher, J., Erfle, H., Conrad, C., Rogers, P., Poser, I., Held, M., Liebel, U., Cetin, C., Sieckmann, F., Pau, G., Kabbe, R., Wünsche, A., Satagopam, V., Schmitz, M.H., Chapuis, C., Gerlich, D.W., Schneider, R., Eils, R., Huber, W., Peters, J.M., Hyman, A.A., Durbin, R., Pepperkok, R. & Dr Jan Ellenberg, J. Phenotypic profiling of the human genome by time-lapse microscopy reveals cell division genes. Nature. 2010 Apr 1;464(7289):721-7.

**Warning:** The identity of the parental cell line has not been tested. The sequence of the plasmid used to generate this cell line is available but the copy number integrated in the genome has not been tested, the insertion site has not been determined and the integrated plasmids have not been sequence verified. We make no warranties of any kind about the identity of the parental cell line, the copy number and completeness or accuracy of sequences of integrated plasmids. Any reliance you place on this cell line is therefore strictly at your own risk.

### Recommendations for handling of adherent cell cultures following delivery

#### Cryopreserved cells

If immediate culturing is not intended, the cryovial(s) must be stored in liquid nitrogen (-196°C) or at least at -80°C after arrival.

If immediate culturing is intended, please follow these instructions:

Quickly thaw by rapid agitation in a 37°C water bath within 40-60 seconds. The water bath should have clean water containing an antimicrobial agent. As soon as the sample has thawed, remove the cryovial from the water bath. Note: A small ice clump should still remain and the vial should still be cold.

From now on, all operations should be carried out under aseptic conditions.

Transfer the cryovial to a sterile flow cabinet and wipe with 70% alcohol. Carefully open the vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of culture medium (room temperature). Resuspend the cells carefully. Centrifuge at 300xg for 3 min and discard the supernatant. The centrifugation step may be omitted, but in this case the remains of the freeze medium have to be removed 24 hours later.

Resuspend the cells carefully in 10ml fresh cell culture medium and transfer them into two T25 cell culture flasks. All further steps are described in the Subculture section.

#### Proliferating Cultures

The cell culture flasks are completely filled with cell culture medium to prevent loss of cells during transit.

Remove the entire medium except for a sufficient volume to cover the floor of the flask. Incubate at 37°C for 24 hrs.

Sometimes the cultures are handled roughly during transit, and most of the cells detach and float in the culture medium. If this has occurred remove the entire content of the flask and centrifuge at 300x g for 5 minutes. Take off the supernatant, resuspend the cells in 10 ml of culture medium and transfer the entire cell suspension into cell culture flasks of suitable size (do not seed in more than 1 T75 flask).

### Safety precautions for frozen cell lines

If the cryovial is planned to be stored in liquid nitrogen and to be thawed in the future, special safety precautions should be followed:

- Protective gloves and clothing should be used and a facemask or safety goggles must be worn when storing and/or thawing the cryovial.
- The removal of a cryovial from liquid nitrogen can result in the explosion of the cryovial creating flying fragments.

References: Caputo, J.L. Biosafety procedures in cell culture. J. Tissue Cult. Methods 11:223-227, 1988. ATCC Quality Control Methods for Cell Lines, 2nd edition, 1992.