

Data Sheet

BCRJ Code: 0390

Cell Line: HeLa/GFP

Species: Homo sapiens

Vulgar Name: Human

Tissue: Cervix

Cell Type: Epithelial

Morphology: Epithelial

Disease: Adenocarcinoma

Growth Properties: Adherent

Biosafety: 2

Additional Info:

HeLa cells the most widely used cancer cell lines in the world. These cells were taken from a lady called Henrietta Lacks from her cancerous cervical tumor in 1951 which today is known as the HeLa cells. These were the very first cell lines to survive outside the human body and grow. Both GFP and blasticidin-resistant genes are introduced into parental HeLa cells using lentivirus.

Culture Medium:

Dulbecco's Modified Eagle's Medium (DMEM) modified to contain 2 mM L-glutamine, 4500 mg/L glucose, 0,1mM MEM Non-Essential Amino Acids (NEAA), 10% of fetal bovine serum (FBS), 10µg/mL Blasticidin.

Subculturing Medium Renewal:

2 to 3 times per week

Subculturing Subcultivation Ratio:

1:2 to 1:6

Culture Conditions:

Atmosphere: air, 95%; carbon dioxide (CO₂), 5% Temperature: 37°C



Cryopreservation: 95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:

SAFETY PRECAUTION: It is highly recommended that protective gloves and clothing always be used and a full face mask always be worn when handling frozen vials. It is important to note that some vials leak when submerged in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vessel exploding or blowing off its cap with dangerous force creating flying debris. 1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the vial and cap out of the water. Thawing should be rapid (approximately 2 minutes). 2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions. 3. For cells that are sensitive to DMSO it is recommended that the cryoprotective agent be removed immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately 125 x g for 5 to 7 minutes. 4. Discard the supernatant and resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio). 5. Incubate the culture in an appropriate atmosphere and temperature (see "Culture Conditions" for this cell line). **NOTE:** It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

References:

1. Chen, X. et al. (2016). Patterned poly (dopamine) films for enhanced cell adhesion. *Bioconj. Chem.* doi:10.1021/acs.bioconjchem.6b00544. 2. Castleberry, S. A. et al. (2016). Nanolayered siRNA delivery platforms for local silencing of CTGF reduce cutaneous scar contraction in third-degree burns. *Biomaterials.* doi:10.1016/j.biomaterials.2016.04.007. 3. Alidori, S. et al. (2016). Targeted fibrillar nanocarbon RNAi treatment of acute kidney injury. *Sci Transl Med.* doi:10.1126/scitranslmed.aac9647. 4. Shopsowitz, K. E. et al. (2015). Periodic-shRNA molecules are capable of gene silencing, cytotoxicity and innate immune activation in cancer cells. *Nucleic Acids Res.* doi:10.1093/nar/gkv1488. 5. Castleberry, S. A. et al. (2015). Self-assembled wound dressings silence MMP-9 and improve diabetic wound healing in vivo. *Adv Mater.* doi:10.1002/adma.201503565. 6. Dosta, P. et al. (2015). Surface charge tunability as a powerful strategy to control electrostatic interaction for high efficiency silencing, using tailored oligopeptide-modified Poly (beta-amino ester)s (PBAEs). *Acta Biomater.* doi:10.1016/j.actbio.2015.03.029. 7. Topete, A. et al. (2014). NIR-light active hybrid nanoparticles for combined imaging and bimodal therapy of cancerous cells. *J Mater Chem.* 2:6967-6977. 8. Weerakkody, D. et al. (2013). Family of pH (low) Insertion Peptides for Tumor Targeting. *PNAS.* 110:5834-5839

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