

293 LTV Cell Line

CATALOG NUMBER: LTV-100

STORAGE: Liquid nitrogen

Note: For best results begin culture of cells immediately upon receipt. If this is not possible, store at -80°C until first culture. Store subsequent cultured cells long term in liquid nitrogen.

QUANTITY & CONCENTRATION: 1 mL, $>1 \times 10^6$ cells/mL in 90% complete medium, 10% DMSO

Background

The 293LTV Cell Line is a permanent line established from primary embryonic human kidney transformed with human adenovirus type 5 DNA. The genes encoded by the E1 region of adenovirus (E1a and E1b) are expressed in these cells and participate in transactivation of viral promoters, allowing these cells to produce high levels of protein.

293LTV also stably expresses the SV40 large T antigen and Neomycin resistance gene, through cloning and multiple rounds of testing for viral yield, 293LTV is specifically selected for high level of lentiviral production. It offers several advantages over the regular 293T cells:

- High lentiviral yield
- Firm attachment to culture plate and fast growing
- Ideal as a host when making lentivirus by cotransfection

Quality Control

This cryovial contains at least 1.0×10^6 293LTV cells as determined by morphology, trypan-blue dye exclusion, and viable cell count. The 293LTV cells are tested free of microbial contamination.

Medium

1. Culture Medium: D-MEM (high glucose), 10% fetal bovine serum (FBS), 0.1 mM MEM Non-Essential Amino Acids (NEAA), 2 mM L-glutamine, 1% Pen-Strep (optional)
2. Freeze Medium: 90% complete medium, 10% DMSO

Methods

I. Establishing 293LTV Cultures from Frozen Cells

1. Place 10 mL of complete DMEM growth medium in a 50-mL conical tube. Thaw the frozen cryovial of cells within 1–2 minutes by gentle agitation in a 37°C water bath. Decontaminate the cryovial by wiping the surface of the vial with 70% (v/v) ethanol.
2. Transfer the thawed cell suspension to the conical tube containing 10 ml of growth medium.
3. Collect the cells by centrifugation at 1000 rpm for 5 minutes at room temperature. Remove the growth medium by aspiration.
4. Resuspend the cells in the conical tube in 15 mL of fresh growth medium by gently pipetting up and down.

5. Transfer the 15 mL of cell suspension to a T-75 tissue culture flask. Place the cells in a 37°C incubator at 5% CO₂.
6. Monitor cell density daily. Cells should be passaged when the culture reaches 95% confluence.

Recent Product Citations

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