293AD Cell Line

CATALOG NUMBER: AD-100

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

QUANTITY & CONCENTRATION: 1 mL, 1 x 10^6 cells/mL in 90% complete medium, 10% DMSO

Background

The 293 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. E1 also complements the E1-deletion in recombinant adenoviral vectors, allowing viral replication.

293AD is derived from the parental 293 cell line, but specifically selected for adenovirus applications. It offers several advantages over the regular 293 cells:

- Flattened morphology
- Firm attachment to culture plate, ideal for amplification and tittering of adenovirus
- Larger cell surface area resulting higher transfection and better yield of recombinant adenovirus.

Quality Control

This cryovial contains at least 1.0×10^6 293AD cells as determined by morphology, trypan-blue dye exclusion, and viable cell count. The 293AD 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 293AD 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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3. Bae, E. J. et al. (2015). Cell models to study cell-to-cell transmission of α-synuclein. *Methods Mol Biol.* **1345**:291-298.
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6. Peng, D. et al. (2014). Glutathione peroxidase 7 has potential tumour suppressor functions that are silenced by location-specific methylation in oesophageal adenocarcinoma. *Gut* **63**:540-551.
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Warranty

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