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 -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 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

1. Agudelo, D., et al. (2017). Marker-free coselection for CRISPR-driven genome editing in human cells. *Nat Methods*. doi: 10.1038/nmeth.4265.
2. Tao, C.C. et al. (2017). Epigenetic regulation of HDAC1 SUMOylation as an endogenous neuroprotection against Aβ toxicity in a mouse model of Alzheimer's disease. *Cell Death Differ*. doi: 10.1038/cdd.2016.161.
3. Rossello, R.A. et al. (2016). Characterization and genetic manipulation of primed stem cells into a functional naive state with ESRRB. *World J. Stem Cells* 8:355-366.
4. Tai, D. J. et al. (2016). MeCP2 SUMOylation rescues Mecp2-mutant-induced behavioural deficits in a mouse model of Rett syndrome. *Nat Commun.* **7**:10552.
5. Billcliff, P. G. et al. (2015). OCRL1 engages with the F-BAR protein pacsin 2 to promote biogenesis of membrane trafficking intermediates. *Mol Biol Cell.* doi:10.1091/mbc.E15-06-0329.
6. Kobayashi, H. et al. (2015). Identification of the determinants of 2-deoxyglucose sensitivity in cancer cells by shRNA library screening. *Biochem Biophys Res Commun.* doi:10.1016/j.bbrc.2015.09.106.
7. Naujok, O. et al. (2015). Gene transfer into pluripotent stem cells via lentiviral transduction. *Methods Mol Biol.* doi:10.1007/7651_2015_221.
8. Latta, C. H. et al. (2015). Determining the role of IL-4 induced neuroinflammation in microglial activity and amyloid-β using BV2 microglial cells and APP/PS1 transgenic mice. *J Neuroinflamm.* **12**:41.
9. Kim, J. Y. et al. (2014). Using homogeneous primary neuron cultures to study fundamental aspects of HSV-1 latency and reactivation. *Methods Mol Biol.* **1144**:167-179.
10. Weekman, E. M. et al. (2014). Transition from an M1 to a mixed neuroinflammatory phenotype increases amyloid deposition in APP/PS1 transgenic mice. *J Neuroinflammation.* **11**:127.
11. Wong, M. M. et al. (2014). Promoter-bound p300 complexes facilitate post-mitotic transmission of transcriptional memory. *PLoS One.* **9**:e99989.
12. Amendola, D. et al. (2014). Human placenta-derived neurospheres are susceptible to transformation after extensive in vitro expansion. *Stem Cell Res Ther.* **5**:55.
13. Chen, Y.C. et al. (2014). CREB SUMOylation by the E3 Ligase PIAS1 Enhances Spatial Memory. *J Neurosci*. **34**:9574-9589.
14. Schiefermeier, N. et al. (2014). The Late endosomal p14–MP1 (LAMTOR2/3) complex regulates focal adhesion dynamics during cell migration. *J Cell Biol*. **205**:525-540.
15. Rossello, R.A. et al. (2013). Mammalian genes induce partially reprogrammed pluripotent stem cells in non-mammalian vertebrate and invertebrate species. *eLife Sci.* 2:e00036.
16. Dillahunt, S. et al. (2013). Usage of sphingosine kinase isoforms in mast cells is species and/or cell type determined. *J.Immunol*. **190**:2058-2067.
17. Pages, M.S. et al (2012). E-prostanoid 2 receptors dampen mast cell degranulation via cAMP/PKA-mediated suppression of IgE-dependent signaling. *J. Leukoc. Biol*. **92**:1155-1165.
18. Enrich, E.A. et al. (2012). The adaptor 3BP2 is required for early and late events in FcRI signaling in human mast cells. *J. Immunol*. **189**: 2727-2734.

19. Shimamura, T. et al. (2008). Hsp90 inhibition suppresses mutant EGFR-T790M signaling and overcomes kinase inhibitor resistance. *Cancer Res.* **68**:5827-5838.

Warranty

These products are warranted to perform as described in their labeling and in Cell Biolabs literature when used in accordance with their instructions. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THIS EXPRESSED WARRANTY AND CELL BIOLABS DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR PARTICULAR PURPOSE. CELL BIOLABS*'s* sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of CELL BIOLABS, to repair or replace the products. In no event shall CELL BIOLABS be liable for any proximate, incidental or consequential damages in connection with the products.

This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.

Contact Information

Cell Biolabs, Inc.
7758 Arjons Drive
San Diego, CA 92126
Worldwide: +1 858-271-6500
USA Toll-Free: 1-888-CBL-0505
E-mail: tech@cellbiolabs.com
www.cellbiolabs.com